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bequest.

Pioneer Oct 11. 1881

Resolution N. 1444. October 1881.

THE REVISION OF SETTLEMENTS.

THE following resolution has been passed by the Revenue and Agricultural Department:—

In August 1879, at a time of financial pressure, it appeared to the Government of India to be expedient to invite Local Governments, under which settlement operations were proceeding, to review any settlements in progress, to contract the work where it did not seem likely to be remunerative, and to bear in mind that fresh proposals for revision of settlement would not be favourably entertained unless it could be shown either that the undertaking would yield a sufficient pecuniary return, or that special circumstances existed which would justify unremunerative outlay. A communication in this sense was addressed to the Governments of the North-Western Provinces and Oudh and of the Punjab. The Government of Bombay was asked to consider whether similar instructions might be usefully applied in the Bombay Presidency; and the Government of Bengal had been requested at a somewhat earlier date to supply information regarding the cost of settlement work then in prospect and its probable financial results. It was not thought necessary to address other Local Governments and Administrations, either because the settlements in course of execution were first settlements, as in Madras and British Burma, or because the Government of India was already in correspondence with the Local Administration on the subject of its settlements, as in the case of Assam, or, lastly, for the reason that the period as in Berar, when any districts would be due for revision of settlement was, as yet, more or less remote.

2. In the course of the discussions which preceded and followed the issue of the orders of August 1879, it was represented that re-settlements are not infrequently unsuccessful from a merely financial point of view; that a regular revision of settlement, comprising re-measurements and a renewal of the record of rights, must inevitably harass for several years the people of the district where it is being conducted; that such re-setttlements temporarily depreciate the value of landed property; that, until the revised assessments are announced, they check improvement; and that, for these and other reasons, they cost the people a good deal, besides what they cost to the general treasury. It appeared, however, that the Government of India was hardly in a position to determine what precise weight should be attached to these and similar arguments because, although much information bearing upon some of them, and more especially upon the question whether revision operations are financially profitable, was scattered throughout a variety of settlement reports and treatises, no attempt had been made to bring together the material particulars in a compendious and accessible compilation, or to sum up the history of all regular settlements now current in India, with special regard to their financial results.

3. Mr. E. Stack, C.S., then Officiating Under-Secretary in the Home, Revenue, and Agricultural Department, was accordingly requested to prepare a memorandum with the object of presenting a sketch of all the temporary land revenue settlements now in force, and of comparing the expenditure upon them with the increase of revenue obtained. Mr. Stack carried on this work in intervals of leisure while he was acting as Under-Secretary to the Government of India up to the beginning of April 1880. He was then retained on special duty for a short time, and the work, with the exception of certain statistics from the Bombay Presidency, was practically finished by the middle of the following June. The information from Bombay was received in August 1880; and printed copies of the Memorandum were ready for the perusal of the Government of India in December last. All or most of the several sections of the Memorandum had been submitted to the criticism of competent revenue authorities in the different provinces before they were finally printed off.

4. The Governor-General in Council has read the work thus prepared with much interest. It has been ably compiled with conspicuous industry and great research, and is highly creditable to Mr. Stack. As a work of reference, the Memorandum will prove extremely valuable, not only in the Secretariats of the Government of India and of the Local Governments and Administrations, but also for the use of settlement officers in all parts of the Empire. By affording a clear and comprehensive view of the different systems adopted in different provinces, it will tend to promote a general knowledge of methods of settlement which will be of material assistance to those engaged upon such duty.

5. Of the Local Governments more or less directly addressed in connection with the question of continuing or beginning revisions of settlement, the Government of Bengal forwarded a report of the Board of Revenue, from which it appeared that the increase of revenue anticipated from the settlements to be undertaken in 1879-80 was estimated at 33·8 per cent on the outlay; the Government of Bombay represented that in the regulation districts of the Presidency the annual increase in the land revenue, arising from enhancements imposed at re-settlement, was so large that no question could exist as to the financial advantage of continuing and completing the revision; and the Government of the North-Western Provinces and Oudh, whose views were accepted by the Government of India, urged that, as the assessments of Moradabad, Agra, and Hamirpur were nearly finished, and as the expenditure on the survey in Banda and Karwi would be thrown away if the settlement were stopped, the operations in progress should not be interrupted. The Government of the Punjab submitted no direct reply to the letter of August 1879; but it has since, for reasons fully explained in each case, obtained the sanction of the Government of India to the commencement or continuance of revisions of settlement in the Sirsa, Hoshiarpur, Jullundur, Ludhiana, Rawalpindi and Simla districts.

6. The Governor-General in Council has now considered the correspondence above recapitulated in the light of the information collected in the Memorandum by Mr. Stack. There is not, at present, any question of discontinuing settlement operations which are already in progress; nor is it upon any grounds of financial pressure that general orders now appear to be required. But, having regard to the cost of re-settlements and the harassment of the people which detailed enquiries at every revision settlement entail, the Governor-General in Council considers that the principal of the orders of August 1879 should now be re-stated, and its application extended to other Provinces besides those to which it has already been applied. No revision of settlement should therefore be commenced by the Governments of the North-Western Provinces and the Punjab, or by the Chief Commissioners of the Central Provinces or Ajmere without the previous sanction of the Government of India; and it is to be understood that in making applications for such sanction, it should be shown either that an increase of revenue proportionate to the expenditure on the settlement is to be expected, or that sufficient administrative reasons exist for entering, without the prospect of a substantial return, upon a work which in itself is costly to the Government and harassing to the people.

7. The advantage or otherwise of undertaking a revision of settlement will thus always come under careful review; and it may here be mentioned that the consideration of this problem involves, amongst others, four important data, *viz.*—

(1) the cost of operation;
(2) the period during which operations will continue;
(3) the increment of revenue expected;
(4) the incidence of the existing assessment on individual landholders.

Of these data the first and third are, financially, of most consequence, since the basis of the principle now accepted by the Government of India is the proportion of cost of operations to increment of revenue. But from an administrative point of view, both the second and the fourth data require particular attention, on account, in the first case, of the vexation caused to the agricultural populations, and in the second, of the unfairness to individual proprietors which inequality of assessment involves.

8. In the interests both of the exchequer and of the agricultural population, it is necessary that every measure should be adopted to forestall and reduce the cost of actual settlement operations; and it is for this purpose fortunate that, under the programme drawn out in the proceedings of the Famine Commissioners, one of the earliest and most important duties of every Local Government will be the establishment of an organization devised for the purpose of maintaining, in respect to every estate in the province, continuous records of their financial and agricultural condition, from which the information required for the assessment of land revenue ought to be available at the least possible expenditure both of money and of time. On this subject a fuller expression of the views of the Government of India will shortly be communicated to Local Governments and Administrations. But it may be said at once that the officials who will be entrusted with the development of the special organization should direct their earliest and most strenuous efforts to perfecting the system in those districts or tracts of country which will first come under settlement in the future.

9. Assuming, then, that action will have been taken to reduce the cost of re-settlement to its lowest possible figure, the Government of India observes that the orders of August 1879 which admitted that over-rigid instructions would be inapplicable to the case, at the same time indicated that where the annual increase resulting from a re-settlement would amount to not less than one-fifth of its total cost, there would be no reason either to defer it, or to restrict its scope; but that where the prospective annual increase was no more than one-tenth of such cost, it would not, under the financial conditions which then existed, be worth while to incur it. Although, however, this indication has been given of the character of the calculation which has been made, there is certainly no intention to lay down any hard-and-fast rule of arithmetical proportion as binding on any Local Government or Administration. It will suffice to say that the relation between the outlay and the financial return expected therefrom should always be considered; that where a re-settlement would clearly yield (1) no increase of revenue, or (2) less than a profitable rate of interest on the expenditure, it would ordinarily be perferable not to enter upon it; and lastly, on the other hand, that where special administrative reasons for a revision of settlement, such as the necessity for correcting inequality in the incidence of the land revenue, might be shown to exist, the Government of India would be prepared to entertain proposals for a re-settlement, notwithstanding the absence of any prospect of financial advantage. The main point to which attention is now directed is that, in future, no settlement is to be undertaken without the previous sanction of the Government of India, before whom a carefully-prepared estimate of financial results must first be placed.

10. In Oudh, British Burma, Berar, and Orissa many years must elapse before any revisions of settlement come under consideration, and the instructions contained in the preceding paragraphs should be borne in mind by the several local authorities charged with the administration of those parts of India, not as anticipating any decision upon circumstances which are as yet too remote to be taken into view, but as expressing the opinion of the Governor-General in Council as at present advised, and, in particular, as requiring a reference to the Government of India before any re-settlement shall be actually begun. To the comparatively unimportant re-settlements of Government and temporarily-settled estates and of alluvial accretions undertaken here and there in parts of the Lower Provinces other than Orissa, the foregoing orders do not apply; but the Governor-General in Council considers that the Lieutenant-Governor of Bengal when determining, upon his own authority, what re-settlements of this class shall, from time to time, be made, should be guided, as far as possible, by the principles, as above explained, which the Government of India will observe when dealing with proposals for the revision of larger settlements which are submitted to itself.

11. Pending the result of administrative reforms involved in the programme of the Famine Commission, it is premature to make any forecast of the measures which can be taken for reducing the work of re-measurement and local enquiry at future settlements. The question, however, has already received some attention in different parts of India. Thus, in the Bombay Presidency attempts have been made to dispense, to some extent, with re-measurement and re-classification of soils. In the Presidency of Madras strong hopes seem to be entertained that the rates could be raised without a fresh survey of revision of the records. In the North-Western Provinces one of the chief objects of the Agricultural Department has been to secure the maintenance of correct village papers, and thus to facilitate the revision of the next settlement. In Oudh endeavours will be made in the same direction, but it is not yet known whether at the next revision of settlements it will be found possible to dispense with fresh surveys and renewed classification of soils. The Punjab Government has accepted the principle that, where local circumstances admit, re-measurements and detailed revision of the record of rights should be foregone at re-settlement. And, lastly, the Chief Commissioner of British Burma has devised the system embodied in his Directions to Revenue Officers for the purpose of giving effect to this object.

12. On the other hand, there are certain Provinces where it would be an advantage if the matter were now discussed. As regards the Hyderabad Assigned Districts, there is some reason to believe that a fresh record of rights will be indispensable; and in the Central Provinces, apparently both a fresh survey and a new record of rights will be required in anticipation of a new settlement. For the Province of Assam a Revenue Code has been drafted, and possibly on its submission the Government will have an opportunity of considering how the principle here in view could best be applied in that part of the country. But as the Resident at Hyderabad, the Chief Commissioner of the Central Provinces, and the Chief Commissioner of Assam, have not hitherto been addressed on the subject of this and the last preceding paragraph the Government of India would be glad to be favoured with any remarks they may have to make upon it. The points for their consideration are (1) whether when resettlements fall due it will be possible to circumscribe the procedure by dispensing wholly or partially with either re-measurement or re-classification of soils or revision of the record of rights, and (2) whether any

13. It will be apparent from the views now adopted by the Government of India that failure to maintain a correct agricultural record may result either in serious financial loss to the State, or in the institution of operations which are harassing to the agricultural population. In some Provinces the administrative machinery required for the maintenance of such records already exists in good working order; in others it is intended that it shall either be created or improved. In all cases, no efforts should be spared to give the fullest effect to the wishes of the Government in this matter. The Governor-General in Council therefore requests that Local Governments and Administrations will impress upon executive officers who are or will be responsible for the continuous maintenance of the records, which, if properly kept up, would reduce the cost and labour of revising settlements, the great importance which he attaches to the proper discharge of this duty and the necessity which will arise for a full explanation should it, in any case, be performed with less completeness than is allowed by the means available for its fulfilment.

ORDER.—Ordered, that copies of the Memorandum by Mr. Stack be distributed as shown in the margin to Local Governments and Administrations for information and for communication to settlement officers:

	Copies.
Government of Madras ...	20
" of Bombay ...	20
" of Bengal ...	12
" of N.-W. Provinces and Oudh ...	30
" of Punjab ...	30
Chief Commr, Central Provinces,	10
" British Burma ...	30
" Assam ...	12
" Coorg ...	3
" Ajmere ...	3
Resident at Hyderabad for Berar,	5
	175

That the above Resolution be forwarded to the Government of Bengal, North-Western Provinces and Oudh, and the Punjab; to the Chief Commissioners of the Central Provinces, British Burma, Assam, and Ajmere, and, the Resident at Hyderabad for Berar, for information and guidance; and to the Governments of Madras and Bombay, and the Chief Commissioner or Coorg for information.

Also, that the Government of the North-Western Provinces and Oudh be requested to communicate copy of the Resolution to Mr. Stack, and that copy of the Resolution and the Memorandum be transmitted to the Secretary of State for India.

Also, that a copy of the Resolution and Memorandum be forwarded to the Finance and Foreign Departments; and that the Resolution be published in Supplement to the *Gazette of India*.

E. C. BUCK,
Offg. Secy. to the Govt. of I...

Proof
of Le. Oct. 81

MEMORANDUM

UPON

CURRENT LAND REVENUE SETTLEMENTS,

IN THE

TEMPORARILY-SETTLED PARTS OF BRITISH INDIA.

CALCUTTA:
PRINTED AT THE HOME, REVENUE AND AGRICULTURAL DEPARTMENT PRESS,
1880.

PREFACE.

THE object of the present Note, which has been prepared under the orders of the Government of India, is to present a sketch of all the temporary land revenue settlements actually current in British India, and to review the results of those settlements. The materials used in its compilation have been the published reports on each settlement, the annual land revenue and settlement reports of the provincial Governments, and various official documents on settlement and revenue matters. A general summary of all the land revenue settlements in the several provinces is prefixed to the more detailed notices of the work done in each province and district. The provincial Notes have for the most part had the advantage of revision at the hands of the chief, or of some competent, land revenue authority in the province.

E. STACK.

The 15th June 1880.

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GENERAL SUMMARY.

TWO CLASSES OF LAND REVENUE SETTLEMENTS.

LAND REVENUE settlements are divided into two great classes—ryotwari and zamindari—the latter being called also mahalwar or mauzawar. Nearly all Bombay, most of Madras, and the greater part of Assam are under a ryotwari settlement, while in Upper India, meaning by that term the North-Western Provinces, Oudh, the Central Provinces, and the Punjab, the form of settlement is zamindari.

I. RYOTWARI SETTLEMENTS.

A ryotwari settlement means the division of all arable land, whether cultivated or waste, into blocks or lots; the assessment of each block at a fixed rate for a term of years; and the exaction of revenue from each occupant according to the area of land, thus assessed, which he occupies. That area may either remain constant, or may be varied from year to year, at the occupant's pleasure, by the relinquishment of old blocks or the occupation of new, the latter being either land hitherto waste, or land which has been relinquished by somebody else. The occupant holds under an annual lease from the Government, and enjoys all the advantages of absolute proprietorship, subject to payment of the revenue due on the lands he holds during the year. Under this system each occupant deals directly with the Government, and is responsible for his own revenue assessment only. There are two and a half millions* of such occupants in the ryotwari districts of the Madras Presidency, with an average holding of eight acres each; while on the Bombay side, without counting Sindh, there are about a million and a half of occupants,† with an average holding of eight acres in the northern division of the Presidency, 32 acres in the central division, and 23 acres in the southern division; 19 acres being the average of all together. A ryotwari settlement is thus peculiarly a settlement with the peasantry, as tenants of the State, enjoying a tenant right which can be inherited, sold, or burdened for debt in precisely the same manner as a proprietary right, subject always to payment of the revenue, that is, the rent due to the State.

* 1876-77 ... 2,513,935
1877-78 ... 2,569,101

† 1877-78 ... 1,382,803

II. ZAMINDARI SETTLEMENTS.

A zamindari or mauzawar settlement, on the other hand, takes the village (mauza) as the unit of assessment, and recognises the proprietary right of the person or persons (zamindars) who hold the village lands, whether in individual or

joint possession. The area of the village depends upon circumstances; in the North-Western Provinces and Oudh, the average village has an area of about 600 acres; in the Punjab, nearly 900 acres; in the Central Provinces, about 1,300 acres. The assessment is a fixed annual sum payable on the village during a fixed term of years.

DIFFERENCE BETWEEN THE TWO SYSTEMS.

The difference between the ryotwari and the zamindari systems is usually summed up in the statement that the former is a settlement by fields, and the latter by villages. In detail, the main points of contrast are the following:

Variable liability.

(1). The ryotwari landholder can take up or relinquish fields annually at his pleasure, whereas the zamindari landholder has no such power.

Responsibility for waste land.

(2). Under the ryotwari system every block of arable waste has its assessment fixed upon it, and can be taken up by any one who chooses to pay the assessment; but under the zamindari system the assessment of the village remains the same during the entire settlement term, whether the zamindar leaves the waste unbroken, or brings every inch of arable land under the plough. It follows that reclamation of waste lands under the ryotwari system involves an immediate gain of revenue to the Government, while under the zamindari system the gain is deferred till the next revision of settlement.

Joint and general ownership.

(3). The ryotwari landholder is responsible for the revenue assessed upon his individual holding only,* whereas a distinguishing feature of the zamindari system is the principle of joint and several responsibility. Where the zamindar is a single individual, he alone, of course, is responsible for the revenue demand on his estate. But the majority of villages are held by co-parcenary bodies of zamindars, who manage their estate more or less in common, and each of whom is responsible, not only for that share of the revenue demand which corresponds to his own interest, but also for the revenue liabilities of his co-sharers, in case the latter should make default.

TERRITORIAL LIMITS OF EACH SYSTEM.

The territorial limits of these two forms of settlement have been mentioned above. But there are numerous instances of tracts which, for the sake of provincial uniformity, have been brought under one

* A certain degree of joint responsibility in 'survey fields,' *i. e.*, blocks or lots or lands, is admitted under the Bombay rules, but the general principle is as stated in the text.

form of settlement, while the other would have been equally applicable. The Central Provinces have been settled on the mauzawar system, though certain districts were well adapted for a ryotwari settlement; and, in fact, a settlement essentially ryotwari has recently been concluded in one large tract (Sambhalpur). It seems now to be admitted that the Jhansi division of the North-Western Provinces might have been settled on principles closely analogous to those of the ryotwari system. In parts of the Punjab, the principle of joint responsibility has been engrafted by the Government on accidental and incoherent groups of revenue payers. The converse process may be seen in parts of the Madras and Bombay Presidencies. Under the old revenue administration of Madras, the joint-rent or village-rent system, closely resembling the co-parcenary zamindaries of Upper India, prevailed extensively in many districts, but always tending more and more towards that pure ryotwari system which has superseded it in all the new settlements. Narwadari or bhagdari tenures in Guzerat present a still more exact resemblance to village communities in their revenue aspect; but these, too, are gradually losing their distinctive character as the co-sharers grow more disposed to measure their individual liability by the assessment fixed on their actual holdings, and to ignore the principle of joint liability altogether. A mauzawar settlement might perhaps have been practicable in parts of the Deccan, where "divisions of "land, held by brotherhoods of mirasidars "or proprietors,"* corresponding very nearly with the co-parcenary zamindars of the North-Western Provinces, existed within villages as late as 1840. It is barely two years since the mirasidars of the Chingleput district of Madras were induced to accept a composition for the rights they asserted in all the waste lands of their villages; and in 1875 it was judged necessary to compensate Sindh zamindars, by a liberal allowance of free waste, for the separation and assessment of the uncultivated lands included in their old estates. Under the principles of the settlement school of the North-Western Provinces, it is possible that the first of these two classes of landholders might have been treated, at least in earlier years, as village communities, while the latter might have been recognised as owners of their estates (exclusive of excess waste), and admitted to settlement on the zamindari system.

Central Provinces.

Jhansi.

Punjab Frontier districts.

Madras joint-rents.

Guzerat tenures.

Deccan mirasidars.

* Letter of the Revenue Commissioner, Poona, dated 17th October 1840, para. 8.

Chingleput mirasidars.

Sindh zamindars.

CONTROVERSY AS TO THE RELATIVE MERITS OF THE TWO SYSTEMS.

It is worth while to notice briefly, in this connection, the controversy as to the respective merits of mauzawar and ryotwari settlements, revived on several occasions during the last forty years. The mauzawar settlement of the North-Western Provinces had the advantage of being the first example of a regular settlement of land revenue made for a long term of years on certain fixed principles. It was also recommended by the abilities of the school of revenue officers who made and worked it, and who handed it down to successors equally interested in its maintenance. The Bombay ryotwari settlement, coming into the field at a later date, had to shew reasons for adopting a different method. It was still in its infancy when the two Superintendents of Settlement were called upon to consider a number of documents "explanatory of "the system of settlement being pursued "in the North-Western Provinces," and to adopt therefrom any measures which might be useful. In an elaborate report, dated the 17th September 1840, they found that the method of assessment was practically the same in both systems,* while the ryotwari system of settlement by fields had the advantage in being "of simpler "execution in the first instance, and likely "to require fewer adjustments afterwards, "as interfering less with the existing "tenures of landed property, and offering "greater facilities for effecting its sale and "transfer, while affording to the poorer and "less influential portion of the community "a better protection against injustice and "oppression." Later on, in 1865, when the Bombay system of survey and settlement was about to be introduced into Mysore, the Government of India again conceived doubts† "whether some of its "rules might not with advantage be "modified," and the modifications hinted at were in the direction of the settlement methods of Upper India. About the same time a much keener debate was going on over the Sindh settlements. For single and joint zamindari estates in Sindh, the Government of India believed the North-West system to be much better adapted, and much cheaper, than the Bombay system; while as to the "petty proprietorships," consisting of minute individual holdings, it was urged that either system was applicable, but

Bombay settlement.

Mysore settlement.

† Foreign Department letter No. 84, dated 18th February 1865..

Government of India letters No. 2280, dated 30th March 1864, and No. 1417, dated 14th February 1865.

Sindh settlements.

* This was practically the case in the early days of the first regular settlement. But the present method of assessment in the North-Western Provinces, as will be explained later on, differs entirely from any method ever pursued in Bombay.

Issue of the controversy.

that the North-West system would be much the less expensive. In all these cases the result has been the ultimate triumph of the Bombay system. In Sindh this is the more remarkable, as the original intention had been to make a mauzawar settlement of large zamindaries and co-parcenary estates. As for Madras, after extensive and generally unfavourable experience of large zamindaries, the ryotwari principle was established on a strong footing by Sir Thomas Munro's settlement in the beginning of the century; and though its effects were depicted in frightful colours by the Agra Board of Revenue in 1840, as a contrast to the beneficial system of the North-Western Provinces, yet the present settlements, beginning in 1853, have gone on unchallenged to the present time,—perhaps protected by the local Government's initial manifesto to the effect that the ryotwar system is decidedly in advance of settlements by villages or other communities, and that in the progress of society the latter must give place to individual holdings.

GENERAL REASONS FOR EACH SYSTEM.

On the whole, it may be said that the two systems of settlement correspond in a general way to natural differences of land tenure. Where the State found two distinct classes possessing interests in the soil, each with its own rights and duties, the landlords as payers of revenue, and the tenants as payers of rent, there the form of settlement was naturally zamindari, otherwise called mauzawar, because under this system every village can be treated as a revenue unit. Where, on the other hand, as in Southern India, the State had to deal with only one stratum of occupants, each man being directly responsible for the fields actually in his cultivation, the ryotwari form of settlement was the simplest. Little success has attended some recent attempts to introduce either system into the region of the other. In Madras and Bombay it was proposed to grant leases for a term of years to occupants of considerable holdings, at a reduced assessment, on condition that no part of the holding should be relinquished during the term. This would have been a step towards the North-West system; such holdings, if large, might correspond in some degree to the estates of a mauzawar settlement, while the aggregate assessments of the component blocks, less the reduction granted, would represent, as it were, the lump assessment of the estate. But in neither Presidency has the project ever been put into effect. In Assam

Quasi-zamindari leases in Bombay and Madras,

in Assam.

it has been tried, and with a minimum of result, the vast majority of ryots preferring the plan of annual leases. Conversely, an attempt made to establish a ryotwari settlement in a small tract of the North-Western Provinces (the Dudhi tappas of the Mirzapur district) has ended in very partial success. In the progress of the undertaking it was found that rights analogous to those of zamindars existed, and must be taken into account; and the bulk of the peasantry are tenants of these quasi-zamindars, and not tenants of the Government, as the intention had been to make them. In British Burma, again, the experiment of mauzawar settlements proved a failure, owing to want of cohesion among the members of those fortuitous groups of holdings which in Burma correspond approximately to the village of Upper India.

Ryotwari settlement of the Dudhi tappas.

Mauzawar settlement in Burma.

The operation of making a settlement of land revenue consists of five stages, viz., (1) demarcation of boundaries, (2) survey, (3) inspection and classification of soils, (4) assessment, (5) the record of rights.

FIVE STAGES OF SETTLEMENT WORK.

I. Demarcation of boundaries is made in the first instance by the villagers themselves. They are called upon beforehand to set up such marks as shall suffice to indicate the boundaries of their villages, and of the fields within the village. Where they fail to do this, it can be done by Government agency at their expense. Disputes as to boundaries are decided by the officer conducting the demarcation. In the Central Provinces, the Punjab, and Oudh, such decisions have the force of a regular judicial proceeding, settlement officers being invested with judicial powers for that purpose. Elsewhere disputes are decided summarily on the basis of possession, leaving the parties to try the question of legal right in the civil court.

I. DEMARCATION OF BOUNDARIES.

Settlement of disputes.

With a single exception, to be noted hereafter, demarcation of boundaries is effected by the same agency as that which subsequently executes the survey. During the early history of the settlement in Sindh, as also in Madras, the settlement officer was required to demarcate boundaries in advance of the surveyor. This plan never worked well; the settlement officer could not keep pace with the surveyor, and his demarcations were not sufficiently clear and permanent to satisfy

Government agency employed in demarcation.

* See pages 70 and 71 of Madras Administration Report, 1875-76, and pages 20 and 24 of papers relating to the Revenue Survey in Sindh, Bombay, 1875.

the requirements of the latter.* Sindh settlements have been conducted on the Bombay system since 1863, and in 1864 the demarcation of boundaries in Madras was made over to the survey department. The single exception to this general rule of demarcation by the survey officer is to be found in the five latest-settled districts of the North-Western Provinces, where the first step in settlement work has been the demarcation of boundaries by the settlement officer, and the next a cadastral survey by independent and scientific agency.

Permanence of demarcation marks.

It is hardly necessary to remark that the permanent demarcation of village boundaries is no less indispensable under a ryotwari than under a zamindari settlement, seeing that every field must be referred to some local area with a recognised name. But in a zamindari settlement, only the boundaries of the estate or the village need to be permanently demarcated, while the boundaries of fields are demarcated merely for the purposes of survey, without any restriction upon the owner's or tenant's liberty to alter them subsequently as he pleases. Under the ryotwari system, on the other hand, the boundaries of blocks or 'survey fields' are unchangeable, and are denoted by marks as solid and permanent as those which distinguish the lands of one village from another.

Permanent boundary marks, whether of fields or villages, are stone or masonry pillars, placed at the main boundary angles. They are masonry over most of the North-Western Provinces and Oudh, where stone is not to be found. The cost of repair and maintenance is chargeable on the revenue payer.

II. SURVEY.

II. The object of the survey is to frame village maps which shall shew the position, area, and shape of every field in the village. The scale of such maps is usually either 8 inches or 16 inches to the mile. The methods of survey employed in the various provinces have undergone considerable modification from time to time.

(a). *The Revenue Survey of Upper India.*

The scheme for the first regular settlement of the North-Western Provinces embraced two distinct surveys—one scientific, and conducted by the Surveyor General's department; the other unscientific, and managed by the settlement officer. The scientific or Revenue Survey was to prepare maps on the scale of four inches to the mile, showing the village boundaries and the geographical features of the

country, such as the village site, roads, rivers, lakes, &c. The settlement officer's survey was the field survey. The assistance derived by the settlement officer from the Revenue Survey consisted in (1) an accurate record of the *total* area of each village; (2) a map showing the exact configuration of the village, with the cultivated area marked off in blocks, apart from the waste, but not divided into fields; and (3) maps for large tracts of country, showing the relative position of all the villages in the tract. The two former were of use in checking the areas and maps of the field survey, while the topographical maps were of service in camp. Besides these helps, it was also intended that the Revenue Surveyor should furnish the settlement officer with details of the cultivated and culturable area of each village, and with an extensive array of village statistics; but these particulars were found to be expensive and untrustworthy, and were soon discontinued. The Revenue Survey, then, with objects limited as above, was effected throughout the North-Western Provinces about the same time as the first regular settlement, *i. e.*, between 1833 and 1844; and similarly the regular settlements of other Provinces of Upper India have been preceded or accompanied (and in a few instances followed) by the Revenue Survey, which lasted from 1860 to 1869 in Oudh, from 1854 to 1874 in the Central Provinces, and has been going on since 1846 in the Punjab. Assam was brought under the Revenue Survey between 1849 and 1874.

The Revenue Survey cannot be regarded as the basis of settlement in any of these provinces. It is merely of secondary usefulness, and has not been reckoned in the present Note as a part of settlement operations.

(b). *The Cadastral Survey.*

The cadastral survey may be regarded as a development of the Revenue Survey. It exists in five districts of the North-Western Provinces. Here the Revenue Survey maps are on the scale of 16 inches to the mile, and shew the fields. The cadastral survey thus combines in itself the Revenue Survey and the field survey. It had its origin in 1872, and has hitherto been tried only in the five districts abovementioned, in a few petty Bengal settlements, and in certain permanently-settled districts of the North-Western Provinces, which do not come within the scope of this Note.

(c). *The settlement officer's survey in Upper India.*

Excepting these districts, the field survey in Upper India is made by the settlement officer, with the help of the patwaris (or village accountants) and of trained native surveyors. This agency, though not scientific, nor organised as a permanent department, has always been found perfectly adequate to the work required of it. It furnishes the settlement officer with village maps on the scale of 16 inches to the mile, plotted out into fields as they actually exist, and shewing boundaries and areas with sufficient accuracy for all revenue purposes. The field survey now going on in the Punjab is one of this kind.

(d). *The Bombay Survey.*

The Revenue Survey, as practised in Upper India, was recommended to the Government of Bombay in 1840, but was rejected as unnecessary for settlement purposes. The first Bombay settlements were made with the help of a rough and rapid survey effected by the settlement officer. The work was of a less minute nature than in Upper India, where the fields are much smaller than the blocks into which land is divided by the Bombay Survey; and the extensive waste lands of those days were measured in a comparatively summary fashion. But in course of years, as cultivation extended, and the value of land increased, the Bombay Survey grew more elaborate, and has lately assumed a quasi-scientific character. The great trigonometrical triangulation was adopted as its basis many years ago, and more recently it has taken to working in connection with the Topographical Survey of India.

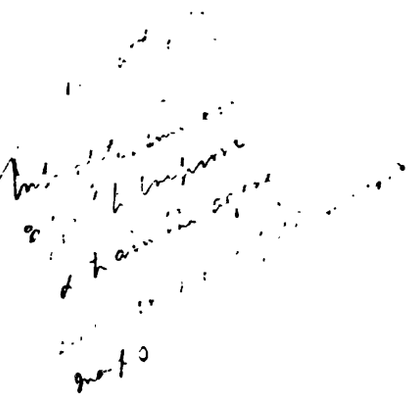
(e). *The Madras Survey.*

No Revenue Survey has ever been made in Madras. The field survey there has this peculiarity—that it is effected by a special department, distinct from that to which the settlement officer belongs. Consequently, it has been quasi-scientific from the first. It is connected by minor triangulations with the Great Trigonometrical Survey, and its topographical accuracy in this respect is now very complete. The field in Madras, as in Bombay, means a block of land measured out by the surveyor; but the settlement department, when the survey is over, has the duty of measuring up sub-divisions of such fields, and marking them on the map.

Tendency of the field survey to become scientific.

Thus it would appear that the tendency of field surveys has been to work round to scientific methods. The change in this direction is noticeable alike in Madras and Bombay, and is still more strikingly

exemplified in the North-Western Provinces, where the usual field survey, in the five districts last settled, has been superseded by a professional survey of a highly scientific form, viz., the cadastral. But the cadastral survey has not been adopted in the Punjab districts now under revision of settlement, where the field survey is conducted in the old fashion by settlement officers with a staff of native surveyors and patwaris. The advantage of a scientific field survey is, that it does not need (or should not need) to be done over again at revision of settlement. On the other hand, the scientific (or cadastral) field survey is very expensive, and the question of its introduction into Upper India in future revisions of settlement will probably be decided mainly by its comparative costliness. Meanwhile it has been adopted as the basis of the Burma settlement. It is at present in progress in the permanently-settled districts of the North-Western Provinces, where the old field surveys are comparatively imperfect. It is also on trial in certain temporarily-settled tracts of Bengal, now coming under revision.



III. The next step consists in the inspection of villages and the classification of villages and soils. Inspection extends to the whole tract of country immediately under settlement, and the settlement officer is required to visit as large a proportion as possible of the villages contained in it, so as to make himself acquainted with the general features of the tract, and the condition of each village. The extent of the tract settled at one time varies in different parts of India. It is largest in Madras, where it may comprise a whole sub-division of a district, with an area of 1,000 square miles, and smallest in Bombay, where it may be an arbitrary local area of a few square miles only. In Upper India it usually coincides with the pargana, in other words, the smallest territorial division of the district for revenue purposes. With the area of the tract, the number of villages also may vary. On the Bombay side separate proposals for the settlement of fifteen or twenty villages are not uncommon; elsewhere the number of villages is much greater, and may amount to several hundreds.

III. INSPECTION AND CLASSIFICATION.

Area settled at one time.

Where villages differ much in character of soils or in cultivation, they must be divided into groups or assessment circles, with reference to similarity in their

Assessment circles.

general conditions. This grouping or classification of villages is one of the first results of inspection. The settlement officer is usually guided by natural conditions, such as broad distinctions of soil, or the differences between upland and lowland tracts, or liability to fluvial action, or differences of rainfall—a point of much importance in parts of Bombay. Within the group, villages may be classified according to artificial conditions, such as proximity to markets, style of cultivation, or nature and quality of water-supply for irrigation.

Soil-classification,

(a) *in Upper India,*

The classification of soils is everywhere based on the same general principles, but there is a wide difference between the manner in which these principles are worked out in Upper and in Southern India. In Upper India the classification is either by natural or artificial soils or both, according as large admixtures of manure have altered the natural qualities of the soil. There is no prescribed list of soil-classes, and the classes adopted in practice are usually few in number. The system of classification consists in the registration of natural and artificial soils at the time of the field survey, and these are subsequently tested at the time of inspection by the settlement officer. In its later development in the North-Western Provinces, the process consists in the demarcation by the settlement officer himself of recognized homogeneous areas within the village boundaries—an operation which can subsequently be entrusted, as the work progresses, to a trained staff under the settlement officer's supervision. These areas are distinguished primarily by their relative proximity to the village,—*i. e.*, their facilities for receiving manure,—and secondarily by their natural qualities of soil.

(b) *in Southern India.*

In Southern India, natural soils alone are looked to in the first instance. The classification is effected by a special agency, who work according to fixed rules; there is a prescribed list of soil-classes; the processes employed are of a minutely technical character; demarcation of homogeneous blocks* is not attempted within the village, every field being independently classed on its own merits; and the result is a long valuation-scale, upon which every field is assigned its place with a

* In the later Madras settlements, an attempt has been made to classify lands into homogeneous blocks, instead of valuing every field on its independent merits. This plan is at variance with the spirit of Madras classification, and has proved but partially successful; the attempt, however, is interesting as an adaptation of the North-West system.

quasi-scientific uniformity and exactitude. In Madras, for example, the soil-classes occurring in most districts are seven in number, and each class has on an average four sub-divisions; thus every field must, in the first instance, be ranked in one of twenty-eight different grades, though subsequently, when the process of assessment begins, the number can be reduced to nine or ten by amalgamation of grades approximately equal. In Bombay there are three orders of soil, and nine classes under each order; the class depends on the depth of soil, as ascertained by the classifier by actual digging; the valuation has then to be corrected for one or more of seven possible faults; and as it is ultimately expressed in annas and pie, from a maximum of one rupee to a minimum of two annas, it is obvious that the grades of soil may theoretically be as many as the number of pies in fourteen annas, *i. e.*, one hundred and sixty-eight.

Artificial soils in Southern India.

Though primarily concerned with natural soils, the Madras and Bombay systems of classification do not ignore the effect of manure. The 'permanently-improved' lands of Madras, and the 'garden' lands of Bombay, form separate classes more or less corresponding to the artificial soils of Upper India; and other manured lands, though not shewn as a separate class, come into the highest grades of their respective orders of soil.

Irrigated lands.

Irrigated lands, whether in Upper or Southern India, are universally distinguished from unirrigated, and, as a rule, this distinction forms an important element of assessment.

IV. ASSESSMENT.

IV. By the time that settlement operations enter upon their fourth stage, that of assessment, the settlement officer has before him a number of general statistics collected during the survey, inspection and classification of each village. In addition to this, the settlement officer of Upper India has sub-divided the village into homogeneous tracts, whether of natural or artificial soil, while the settlement officer of Madras or Bombay has provided himself with a scale showing the relative value of every individual field—expressed under the Madras system in terms of the soil-class and grade to which it belongs, and on the Bombay side still more plainly in annas and pie. In these two latter cases, obviously all that is now wanted is a rate of assessment per acre, or revenue-rate, as it is called. In Madras it is necessary to find a revenue

rate for every class of soil, and for each grade in the class; and by applying this to the area of each field, according to the class and grade, the assessment of the field is determined, and the object of the settlement is accomplished. In Bombay the affair is simpler still, for a maximum rate is all that is needed, viz., a rate applicable to a field classed at 16 annas, whence the rates for other fields can be calculated at once from their relative classification-values.

The Madras method of obtaining revenue-rates.

The Madras method of arriving at revenue-rates consists in ascertaining, by actual experiment and all other possible means, the average yield of certain staple crops on each class and grade of land, converting this into cash at the average harvest prices of the last 20 years, deducting the expenses of cultivation, and taking half the remainder, less a fair margin for casual losses, as the Government share, *i. e.*, as the revenue-rate per acre upon a field of that kind. This is a method sufficiently laborious, and of only approximate accuracy; but it rests on demonstrable processes, and can be successfully worked, as experience has proved.

The Bombay method of obtaining maximum-rates.

The first attempt at a general land revenue settlement in Bombay was made on a method very similar to this, viz., estimates of the yield of soil-classes, and of the expenses of cultivation, and assumption of the Government demand at 55 per cent. of the net produce. But this plan broke down in 1835, and was then definitely abandoned for the method of assessing the field according to its soil. Of all modes of soil-classification in use throughout India, that of Bombay is incomparably the most elaborate. Nevertheless, it furnishes no guide of itself to the maximum revenue-rates, nor is it followed by any regular process for their determination. They are arrived at, in fact, simply from general considerations. The districts first settled were known to be over-assessed, and they were dealt with on the principle that a light revenue demand with extended cultivation would be more profitable than a heavier demand with cultivation in a stationary or declining state. Existing assessments and average rates were known, as also the total demand from the tract under settlement, and the actual remissions and realisations during a period of years. Putting these things together, revenue-rates were selected such as would give an assessment that the tract could pay, such rates being graduated according to the rank of each

village group in the scale of revenue-paying capacity. The method of the later settlements does not appear to present any material difference, except that the revenue-rates of similar tracts previously settled have been at hand as guides and standards of comparison. In revising the original settlements of the Deccan districts, the old revenue-rates have been raised with reference to the rise of prices, the increased value of land, and the improvement of communications; that is, with reference to the assumed taxable value of an acre at present, as compared with its value 30 years ago.

Deductive character of the Bombay method.

Thus the Bombay method is essentially a deductive one. It might be represented, in its plainest form, as an arithmetical deduction from arbitrary data. Assuming, on general considerations, a certain sum as a fair revenue demand from the tract under settlement, it is easy to calculate, from the classified area of cultivation, what rate per acre of 1st class land will be required to produce the desired result. The weak points of the system are that this arithmetical process requires no personal acquaintance with the tract under assessment; that the officer who makes the classification has not necessarily any voice in the assessment, but must accept the rates imposed upon his soil-classes; and that, in the application of these general rates, the circumstances of individual villages hardly receive sufficient consideration.

Method of calculating assessments in Upper India: Rent-rates of the North-Western Provinces and Oudh.

The task before the settlement officer in Upper India is to assess the village, not the field. Most of the land in the North-Western Provinces and Oudh is held by tenants paying rent to the proprietor of the village, and the proprietor is assessed to revenue on the gross rental of his estate. One-half of the rental is taken as the share of the Government. It often happens that large areas of land are cultivated by the proprietor himself; but the settlement officer is at no trouble to calculate their produce; he simply estimates them at the rental value of similar lands cultivated by tenants. Thus rents form the basis of assessment, and the settlement officer's business is to ascertain the true rental value of each estate. This is done by an elaborate analysis of rents actually paid for the fields comprised in the various tracts into which the village lands have been classified. Eliminating rack-rents and privileged rents, an average rent-rate per acre is arrived at for each class of land in each village

North-Western Provinces rent-rates.

group; and the rental value of each village is determined by the application of these average rates to the areas of the different soil-classes within its boundaries. This is the process followed in the North-Western Provinces. That of Oudh generally differs from it in attaching less importance to average rent-rates than to the actual rent-rates determined by the custom of each individual village; in other words, in estimating the rental value of each village on its own data, with comparatively little reference to the rental value of other villages, though adjacent and similar in their physical conditions. But either method has equally the characteristic of being founded on existing facts, capable of ascertainment with the greatest precision. The Oudh method professes to determine the gross rental of a village, and actually does determine it with arithmetical exactitude. The North-Western Provinces method professes to determine the average rental value, first, of each class of land in a given group of villages, and, secondly, of each village; and actually does determine this by wide induction from unimpeachable data.

Oudh rent-rates.

The 'aggregate to detail' method of the Central Provinces and the Punjab.

These methods obviously depend upon the prevalence of cash rents. Where most of the land is cultivated by proprietors, or where rents are in kind, or customary and nominal, some other means of assessment must be sought. This was the case to a great extent in the Central Provinces, and assessments there were arrived at partly by the method of rent-rates, and partly by the method familiar to the settlement officers of five-and-thirty years ago as the 'aggregate to detail' process. This consists in assuming a fair revenue demand for the whole tract under assessment, and then apportioning it among the villages, till by repeated correction it is fairly adjusted to the circumstances of each. This is the plan hitherto followed in the Punjab settlements, but it is now being supplemented or superseded by the calculation of revenue-rates from estimates of gross produce, the Government share being taken at one-sixth. These estimates vary according to soil-classes. Applied to the classified area of an assessment circle, they give the average revenue-rates for the circle, and the assessment of each village can thence be calculated (with due allowance for local conditions) by valuing the soil-classes of the village at their respective revenue-rates.

Estimates of produce in the Punjab.

Variations in assessment due to caste, &c.,

Certain other points regarding assessment may be briefly noticed. The ryotwari revenue-rates are framed with

reference to the profits on average husbandry, and make comparatively little allowance for the habits of the cultivator in individual villages; whereas in Upper India rent-rates vary considerably according to the caste of the tenant, and village assessments, whether calculated on rental value or otherwise, are a good deal modified by the number, caste, and habits of the proprietors.

under the ryotwari system,

and under the zamindari system.

Under a ryotwari settlement irrigated land is separately assessed. In Madras each class and grade of land has two revenue-rates, according as it is watered or dry, provided the water be not supplied from *private* sources; on the Bombay side the main distinction is between lands growing a wet crop, *i. e.*, rice, and lands producing dry crops, *i. e.*, cereals or millet, and each of these classes has its own maximum rate. In Upper India separate rent-rates are usually framed for irrigated and unirrigated land, where rent-rates are framed at all. Sometimes it is found unnecessary to make the distinction, rents being regulated merely by the class of soil, on the understanding that the best soils are either irrigated or irrigable, while inferior soils cannot be irrigated with profit. Where rent-rates are not framed, the extent of irrigation is still one of the determining elements in the assessment of a village, and separate revenue-rates are deduced to shew the estimated incidence of the assessment on irrigated and dry lands respectively.

Assessment of irrigated lands in Madras,

in Bombay,

in the North-Western Provinces and Oudh,

in the Central Provinces and the Punjab.

It may be useful to note here the relative extent of irrigation in the various provinces. Setting aside Sindh, where an artificial supply of water is a necessary condition of cultivation, the proportion of cultivated area irrigated in the Bombay Presidency is about 2½ per cent.; in Madras the proportion is 19 per cent.; in the Central Provinces, 6 per cent.; in the Punjab, 30 per cent.; in the North-Western Provinces and Oudh, 36 per cent.

Irrigation percentages of the various provinces.

The method of assessing irrigated lands varies a good deal. In Madras, where the distinction between wet and dry lands is most sharply marked, the Government of India has frequently recommended a separate water-rate for all lands irrigated from a Government source, whether tank, canal, or river. According to this theory, the field should first be assessed as dry, and then a water-rate per acre should be added. The plan has been adopted in the districts under the Godavery and Kistna canals, but nowhere else. On the Bombay side it is

Separate water-rate in Madras,

in Bombay,

not uncommon to find rice lands assessed separately for land and water; but as irrigation is all from private sources, this water-rate is merely a method of valuation; and, in fact, it is applied equally to the assessment of rice lands dependent wholly upon rainfall. In Sind consolidated revenue-rates are the rule, the dry value of the land being *nil*.

in Upper India.

Throughout Upper India the practice now is to make a distinction between wet and dry assessments on canal-watered lands. This plan was tried in certain Punjab districts settled between 1862 and 1869, and has been adopted in the Punjab settlements now in progress. The land is assessed as dry, and then a water-rate is added. In the North-Western Provinces a rate called the 'owner's rate' is imposed, which secures to the Government its share in such increase in rental value of the estate, subsequently to settlement, as is due to the extension of canal irrigation. Lands watered from private sources in Upper India are now invariably assessed at consolidated rates. The experiment of a separate water-rate on such lands was tried in five districts of the Punjab, settled between 1862 and 1869, and resulted in a considerable sacrifice of revenue.

Crop-rates.

Under the Bombay system each class of cultivation has its own maximum revenue-rate. The principal classes are dry crops, rice, and gardens, with one or two additional varieties in some districts. Gardens have their separate revenue-rates in Madras, as 'permanently-improved' lands; and in a few districts separate rates have been framed for lands specially adapted to the cultivation of sugarcane or tobacco. In Upper India crop-rates have sometimes been taken as a guide to assessment. These are rent-rates or revenue-rates calculated according to the crop, not according to the class of land. They appear only in the earlier settlements.

V. RECORD OF RIGHTS.

V. The record of rights is the final work of settlement. Under both the ryotwari and the zamindari systems it consists primarily of the field map and the field register. The former exhibits the position, number, and shape of every field; the latter gives its number, area, and soil-class, shews whether it is irrigated or unirrigated, and adds all fiscal particulars, viz., in a ryotwari settlement, the assessment and the name of the occupant; and in a zamindari settlement the rent paid, the tenant's name, and the name of the proprietor. In framing the

The field map and field register.

field register, the settlement officer frequently finds himself confronted by disputes as to the ryotwari right of occupancy, or the proprietary right of a zamindar. In Madras and Bombay such disputes are at once referred to the civil court, and the name meanwhile entered in the register is that of the party in possession. The same rule is observed in the North-Western Provinces; but there the settlement officer takes evidence in court, and records a formal proceeding on the question of possession before making the entry in the register. In all these cases the entry is liable to be changed by the decree of a competent court. Elsewhere in Upper India the settlement officer has power to try and decide the question of right, and the entry made by him represents a judicial decision which the civil court cannot modify.

Questions of ownership, how settled in framing the field register.

The field register of a ryotwari settlement is recast annually, so as to record the annual changes of occupancy. As the occupant of every field is the revenue payer for that field, the ryotwari field register may also be regarded as the annual revenue-roll. It is a more voluminous record under the Madras than under the Bombay system; for the smallest recognised sub-division of a Bombay field is three-sixteenths of an acre, while a Madras field may be sub-divided indefinitely, and every sub-division, down to the hundredth part of an acre, is distinguished by a serial letter, and entered in the register under the number of the field.

Revenue-roll of a ryotwari settlement;

The revenue-roll of a mauzawar settlement does not shew the fields at all. It is a list of the proprietors of the estate, shewing the extent of the interest of each, whether measured by proportionate shares (as so many annas in the rupee), or by actual division of the lands; and, finally, the assessment of the estate. The proprietors are jointly and severally responsible for the whole assessment; but the individual liability of each is also shewn, or, more strictly speaking, the liability of each of the recognised divisions of the proprietary body. The number of proprietors in an estate may vary from one to several score, but in any case the estate is assessed as a whole, and the proprietors are left to adjust their respective revenue liabilities among themselves, with the assistance of the settlement officer. The method and results of this apportionment are recorded in the village papers. As a rule, the sub-division is not carried down to the individual, but only

of a mauzawar settlement.

to certain recognised groups, within which each individual's share is left unrecorded, as a matter of private understanding. Something of the same kind, but on a much less extensive scale, is observed with regard to the entry of co-sharers' names in the Bombay field register.

The rent-roll of a manzawar settlement.

The existence of a numerous tenantry makes the record of rights a more elaborate series of documents in Upper India than in Madras or Bombay. It will be sufficient to mention merely the rent-roll, in addition to the revenue-roll or list of proprietors. This is a list of tenants, shewing the fields held by each, their area, and rent. It is compiled in the first instance from the field register, but is afterwards maintained independently. Fields cultivated by a proprietor are entered under the proprietor's name.

The field register is not, as a rule, annually renewed in Upper India, but the other parts of the record of rights (or village papers) are yearly recast by the village accountant, so as to correspond with the actual facts of proprietorship and tenancy.

TEMPORARY SETTLEMENTS IN ASSAM AND BENGAL.

It remains only to notice briefly the temporary settlements in Assam and Bengal, and the system of settlement now about to be imposed on British Burma.

Assam.

Assam is under a settlement which may be called ryotwari, though differing in certain points from the ryotwari settlements of Southern India. No accurate field survey has ever been made, and the revenue-roll is recast annually on rough measurements of holdings made by the village officials. There are only three classes of land, and the revenue-rates on these have been fixed by custom, not by any process of assessment. In the exceptional circumstances of the province, with its abundant land and scanty population, they resemble rather a tax on agricultural labour than rent paid for the possession of land. The peculiarities of Assam settlements were fully discussed in a correspondence with the Government of Bengal in 1872, when the conclusion arrived at was that the existing system must be left undisturbed for the present.

Orissa.

The principal temporary settlement in Bengal—that of Orissa—was made by calculating the rental value of estates, and taking 55 per cent. of this as the Government share. The data of calculation were the village accounts, supplemented by the settlement officer's personal inquiries. At the lapse of the settlement in 1868, it was decided to renew it without revision, in consequence of the losses

by famine in 1866-67. Assessments in Chittagong were made by the simple process of applying a single revenue-rate to all lands, with such modifications, however, as circumstances called for. The revenue-rate was an empirical one, and the land was assessed by plots, according to actual possession at the time of settlement. In the recent settlement of the Khurda estate, the method of estimating produce has been adopted, and the revenue-rates represent one-fourth of the money value of the gross produce of an acre of each class of land. The assessments, once fixed, will remain invariable throughout the term of settlement.

Chittagong.

Khurda.

BRITISH BURMA SETTLEMENT.

The settlement operations now in progress in British Burma possess a peculiar interest, as being a kind of compromise between the method of the North-Western Provinces and the methods of Southern India. The cadastral survey determines the area of every field, and the settlement officer, as in Southern India, will apply a revenue-rate to every field, according to the class of soil. The revenue-rates will be obtained by the Madras method of grain-values, after deducting not only the cost of cultivation, but also the cost of living. The settlement will be made with ryots holding directly from the State, and the revenue-roll will be subject to annual revision as in Madras and Bombay. On the other hand, the important process of soil-classification will be conducted chiefly on North-West principles. The settlement officer is to begin by classifying tracts, according to broad and marked differences arising out of natural features and local circumstances; then he proceeds to classify the lands within the villages (kwengs) of each tract, dividing them into blocks according to manifest varieties of soil. The number of soil-classes will be comparatively few, based on the primary distinction between clay, loam, and sand. The settlement is under the management of an officer from the North-Western Provinces, and as the latest-born of Indian settlements, it enjoys all the advantages of an eclectic system.

TERM OF SETTLEMENT.

The term for which a temporary settlement of land revenue in British India is usually guaranteed is 30 years. Where the district is in a backward and undeveloped state, a shorter term is fixed, commonly 20 years. In Sindh the term is only 10 years, but the circumstances of that province are exceptional. At the end of the term, whatever its duration, the settlement of the district is open to revision.

REVIEW OF EXISTING SETTLEMENTS.

Existing settlements in each province may be briefly described as follows:—The Central Provinces were settled between 1855 and 1869, and these settlements will expire between 1880 and 1897. The settlement of Oudh has just been completed, and will expire between 1893 and 1906. The revision of the first regular settlement of the North-Western Provinces is on the verge of completion, and these revised settlements, again, will come under revision between 1882 and 1910. In the Punjab, revision of settlement in some districts has already begun, and the settlement terms in several others will expire before 1888, but the latest-made original settlements will expire between 1894 and 1908. The case of Bombay is similar; here the last term for original settlements is the year 1900. In Madras only eight districts have been brought under regular settlement, and the settlement term in the earliest-settled of these will expire in 1892.

FINANCIAL RESULTS OF CURRENT SETTLEMENTS.

The following table shews the financial results of land revenue settlements actually current in India, exclusive of (1) the permanent settlement of Bengal, and minor temporary settlements in the same province; (2) part of the Sindh settlements; (3) the Madras and Mysore districts not yet brought under settlement; (4) the Umballa, Sirsa, and Muzaffargarh districts of the Punjab; (5) the greater part of Assam:

	Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
	Rs.	Rs.	Rs.		Rs.
North-Western Provinces ...	3,32,56,635	3,79,67,719	47,11,084	14·14	1,36,75,194
Oudh	1,05,26,867	1,44,21,814	38,94,947	37	62,54,508
Central Provinces	52,52,674	59,75,907	7,23,233	13·8	36,65,917
Punjab	1,69,35,954	1,79,40,918	10,04,964	5·94	76,76,128
Madras*	1,48,94,717	1,57,14,700	8,19,983	5·5	82,11,415
Bombay	1,68,26,766	1,99,54,760	31,27,994	18·6	1,22,41,992
Sindh†	11,44,183	13,43,454	1,99,271	17·4	11,79,999
Mysore	30,40,600	33,59,881	3,19,281	10·5	29,45,816
Berar	51,08,750	66,20,753	15,12,003	29·6	21,90,946
Orissa	15,37,994	15,72,119	34,125	2·22	20,36,348
Assam‡	81,099	2,26,358	1,45,259	179	2,81,737
Chittagong	5,54,082	7,65,507	2,11,425	38	15,23,411
TOTAL ...	10,91,60,321	12,58,63,890	1,67,03,569	15·3	6,18,83,411

* For eight completed districts only.
† Settlements made from 1870 to 1878, *plus* the settlement of Dadu taluqa in 1879.
‡ Sylhet and Jaintia only.

If the outlay on the Revenue Survey be reckoned in, the following additions should be made to the figures of cost:

	Rs.
North-Western Provinces ...	5,22,870
Oudh	10,97,295
Central Provinces ...	25,92,335
Punjab ..	23,46,608
Assam ...	18,54,004

But the Revenue Survey, as explained above, can hardly be regarded as a part of settlement operations.

DURATION OF SETTLEMENT OPERATIONS.

The duration of settlement operations may next be considered. Writing to the Government of Bombay in 1864, on the subject of Sindh settlements,* the Government of India expressed their opinion that "the settlement of a large-sized "district by itself ought to be completed "in five years; that of an average-sized "province.....ought to be completed in "ten years." At that time the precedents before the Government of India were the old settlements of the North-Western Provinces and the Punjab, and the settlements then proceeding in the Central Provinces and Oudh. The data justified the conclusion; but settlement work in Upper India now is very different from what it was then; and an estimate based on more recent data would allow a much longer term. Settlement operations have been steadily becoming more elaborate, and therefore more prolonged. The Central Provinces were settled in ten and a half years, between 1859 and 1869, though even here the average duration of settlement operations in a district considerably exceeded five years. The Punjab settlements made between 1864 and 1873 were very expeditiously effected, the average being three or four years per district; but they entailed a considerable loss of revenue. In the Punjab districts taken in hand since 1872, the average duration of settlement operations has been seven years; and the average term exceeds eight years in those districts of the North-Western Provinces where settlement work began not earlier than 1866. In Oudh the average duration of settlement work in a district is complicated by the circumstance that some of the work had to be done twice over, but in effect it was much the same as in the later settlements of the North-Western Provinces. As a province, Oudh took 18 years to settle. The present work of revision of settlement in the North-Western Provinces, when completed, will have lasted about 24 years, or double the time

* Papers relating to the Revenue Survey in Sindh, Bombay, 1875.

Average duration as estimated by the Government of India.

Actual duration in the Central Provinces,

the Punjab,

in the North-Western Provinces,

in Oudh,

taken to make the old settlements. The current settlements in the Punjab, taken all together, are the result of work which has been going on since 1846. In Southern India the Bombay survey and settlement, instituted in 1836, has not yet completed the settlement of the whole province, though in some parts revision of the original settlements has already begun; while in Madras, after the labour of a quarter of a century, one-third of the province is yet to settle. The important point, however, is not the time taken to settle a province, for that may depend upon various circumstances—as the dates on which the district settlements expire, or the relative expediency of pushing on settlement work with an expensive staff, or spreading the cost over a longer series of years—but the time taken to settle a district. Once a district is taken in hand, it is obviously for everybody's interest that the settlement should be accomplished as quickly as is consistent with thoroughness. For this reason the increasing length of settlement operations is not a subject of congratulation, though some satisfaction may be derived from the reflection that the new settlements are far more thorough than the old.

in Bombay,

in Madras.

COST OF SETTLEMENT OPERATIONS.

With their duration, the cost of settlement operations also increases. Measured by the area dealt with, the settlement of the Central Provinces is surpassed in cheapness only by the Punjab settlements made during the same years. The cost of the Central Provinces settlement averages two and a quarter lakhs per district;* that of the contemporary Punjab settlements, less than a lakh and a half per district. The average cost of the ten Punjab districts where settlement operations did not begin till 1872 has been close upon four lakhs per district. The average cost of settlement in the eight districts† first settled in the North-Western Provinces was less than three and a quarter lakhs per district; in the eight districts last settled it has been more than seven and a half lakhs per district. Differences in area and revenue conditions are quite insufficient to account for these differences in cost. Nor is it very material to remark that the earlier settlements in the North-Western Provinces were made by Collectors, thus saving the pay of a settlement officer. Even if half the Collector's pay be added in, the total will still fall far short of the later figures; and the reason is that all the processes of settlement

Early settlements.

* Omitting the small district of Upper Godavery.

Later settlements.

† Excluding districts of the Jhansi and Kumaun divisions.

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have been gradually becoming more elaborate, more accurate, and therefore more prolonged and costly. The Madras settlements show the same tendency, as may be seen by comparing the cost of the settlement of Trichinopoly, introduced in 1864-65, with that of Tinnevelly or Chingleput, of ten or twelve years' later date. The settlement of the first-named district cost less than six lakhs; that of the second, with an area half as large again, cost nearly fourteen lakhs; that of the third, with an area less than two-thirds of the first, cost twelve lakhs and a half. On the Bombay side, again, the original settlements of the Sholapur, Poona, and Nasik districts cost six and a half lakhs, while the revised settlements have cost twelve lakhs. The old survey was cheap, and comparatively rough, but it answered all the purposes required of it. Greater exactitude is said to be necessary now that cultivation has extended and land has gained a value unknown before.

INCREASE OF REVENUE DUE TO SETTLEMENTS.

Regarded as a financial undertaking, the remunerativeness of settlement work varies very greatly. The older Punjab settlements were made at a dead loss varying from 2 to 24 per cent. Several districts of the Central Provinces had their revenue demand raised 60 or 70 per cent. by settlement; Oudh furnishes cases of an enhancement of 54, 73, and even 103 per cent.; and the present revision of Bombay settlements has so far added 38·4 per cent. to the revenue of the tracts taken in hand. Much depends, of course, on the nature of the previous assessment. In the Punjab the old summary assessments were all far too high, and the chief care of the settlement officer was to afford relief. In Oudh exactly the reverse was the case, for the summary assessments were inadequate, and the settlement officers who revised them were fully conscious of the financial exigencies of the time. The case of the Central Provinces was that of a country where in many parts no regular revenue demand had ever been imposed at all; while the large increase in the revised districts of Bombay is explained partly by the fact that the original settlements were purposely made at light rates to enable the country to recover itself, and partly by the great rise of prices and improvement of communications within the last 30 years. The North-Western Provinces are the fairest instance of all, as presenting

Reasons of enhancement or abatement of revenue.

an example of a regular settlement made on uniform principles about 35 years ago, and now completely revised. Here the enhancement of revenue, tested by three different methods of calculation, appears to lie between 13 and 14 per cent. The Madras settlement is exceptionally circumstanced. It is the first regular settlement that has ever been made throughout the province, and its object is more to simplify revenue administration, by ascertaining the holding of every ryot, and by abolishing a multiplicity of unequal rates, than to obtain an enhanced revenue; and in fact the enhancement, so far, has been only some 5 per cent.

PROPORTION BETWEEN SETTLEMENT EXPENSES AND REVISED REVENUE.

In the letter of 1864 already alluded to, on the subject of Sindh settlements, the Government of India observe that if the total cost of settlement work (exclusive of the revenue survey) amounts to 20 per cent. on one year's revenue, it is cheap; if from 20 to 30 per cent., it is moderate; if from 30 to 40 per cent., it is high; and that any rate of cost above 40 per cent. on one year's revenue is excessive. Comparing the actual proportion between revenue and expenses with these ratios laid down in 1864, we see at once that the latter are greatly exceeded by the reality. The actual proportions are shewn below:

North-Western Provinces	... ...	36
Oudh	... ...	43·4
Central Provinces	... ...	61·4
Punjab ...	Old current settlements	28·6
	Revised settlements from 1862 to 1875...	36·6
	Do. do. from 1872 to 1880...	60
* Madras	... ...	52·1
Bombay ...	Early original settlements ...	61·6
	Recent do. do.	71·4
	Revised do.	41·9
Mysore	... ...	87·7
Berar	... ...	33·1
Orissa	... ...	120·5

Only the oldest settlements of the Punjab would come within the definition of 'moderate.' And these, indeed, were the principal precedents before the Government of India at that time. It is noteworthy that the earlier North-West settlements† also come within the limit, their costs being only 22·8 per cent. on the revenue secured. But it has

* For the eight completed districts only.
† Saharanpur, Gorakhpur-Basti, Bulandshahr, Muzaffarnagar, Meerut, Budaon, Etah, Bareilly.

already been explained that these were made on another and less elaborate plan than the present; and the standards of 1864 are no longer applicable to settlement work of the present day. Moreover, it is obvious that no fixed standard can be prescribed. Settlement expenses must always bear a higher proportion to revenue in a poor district than in a rich one. Thus, the average cost of settlement per district is much less in the Punjab and the Central Provinces than in the North-Western Provinces; yet the North-Western Provinces come nearer the 1864 standard. The reason becomes plain enough when we observe that the Delhi, Nagpur, and Bareilly* settlements each cost about four lakhs, but the revenue secured in Delhi or Nagpur was about 9 lakhs, while that of Bareilly is 16½ lakhs.

No fixed proportion possible.

The return on settlement outlay varies as follows in the different provinces:

RETURN ON OUTLAY.

		Percentage of return.
North-Western Provinces		34·5
Oudh		62·3
Central Provinces		19·7
Punjab ...	Settlements before 1862 ...	Made at a loss.
	Ditto from 1862 to 1875 ...	25·3
	Ditto after 1872	17·4
Madras		10
Bombay ...	Old original settlements ...	25
	Recent do. do.	14
	Revised do.	65
Mysore		11
Berar		69
Orissa		1·7

The large return in Oudh and Berar is explained by the inadequacy of the old assessments in the former province, and by the assessment of concealed cultivation in the latter.

FACILITY OF REALISING THE NEW ASSESSMENTS.

The respective merits of different systems of settlement, mauzawar or ryotwari, or their varieties, is not a subject which falls within the scope of the present Note. All that is aimed at is to record the actual facts of land revenue settlements now current in British India. The expense of collecting the revenue under one system as compared with another is a matter of provincial revenue administration. But the ease and punctuality with which the revenue demand of the year is got in obviously depend upon the fairness of the assessments, and statistics on these

* Exclusive of Pilibhit.

Proportion of annual demand not collected.

points will therefore be useful as a test of the landholder's ability to pay the revenue demand imposed by the settlement officer. The subjoined table shews, for a series of years, the percentage of the land revenue demand which remained uncollected at the end of each year in each province.* In Mysore and Madras no attempt has been made to separate the figures for settled districts from those for unsettled districts. For Mysore there are no such statistics, and for Madras they would not give an adequate idea of the working of the new settlements for the short period included. The years chosen vary in the different provinces, for local reasons (such as famine, or modification of assessments):

Province.	Percentage of uncollected revenue demand in—						
	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.
North-Western Provinces	...	0·53	0·88	0·64	0·52	0·44	2·52
Oudh ...	...	...	...	3·63	0·89	1·05	3·30
Punjab ...	...	0·36	0·46	0·51	0·78	0·90	1·94
Central Provinces ...	...	...	0·14	0·11	0·06	0·02	0·07
Madras ...	2·04	2·02	1·91	2·25	2·08	...	...
Bombay ...	...	0·91	1·12	0·42	0·54	...	...
Mysore ...	...	1·42	1·93	1·49	3·00	...	...
Assam ...	...	...	...	2·81	1·06	0·74	0·38

It will be seen that the revenue is more punctually collected in the Central Provinces than in any other part of India, and that between the other provinces, with the exception of Madras, there is no remarkable difference, when allowance is made for the fact that 1877-78 was a year of distress or famine in the greater part of Upper India. There is, however, a considerable difference between the provinces as regards the amount of old arrears outstanding, in addition to current balances, as will be seen from the following table, which shews the average amount of old

Outstanding arrears.

* It ought to be noted that the land revenue demand here taken into account is the 'real' demand, after deduction of all 'nominal' items, *i. e.*, all sums borne on the revenue-roll pending correction and erasure. But the revenue demand includes sums which are ultimately not exacted, but forgone in consideration of agricultural calamities. The only exception to this rule is Madras, where such sums are deducted from the revenue-roll beforehand.

The Mysore figures for 1872-73 to 1874-75 have been arrived at by a method of calculation explained in the Note on that Province.

arrears outstanding in each province during a series of normal years:

Province.	Years.	Average.
		Rs.
North-Western Provinces	1872-73 to 1877-78	1,83,677
Oudh	1875-76 and 1876-77	1,61,575
Punjab	1875-76 to 1877-78	45,141
Central Provinces ...	1873-74 to 1877-78	3,101
Madras	1872-73 to 1875-76	3,91,909
Bombay	1872-73 to 1875-76	1,00,384

Further particulars will be found in the provincial summaries. It is evident at any rate from these figures that the assessments are not excessive, and that the enhancements made by new settlements represent a realisable addition to the land revenue of British India.

COERCIVE PROCESSES.

Details of the coercive processes employed may be sub-joined to complete the picture. These processes vary in the different provinces, but they consist of three main classes—(1) a writ of demand, chargeable to the defaulter, (2) arrest and detention of the defaulter's person, and (3) distraint of his personal property, to be followed by sale of the property distrained, or of his land in case of continued default. It will be sufficient to take a single year, 1874-75.

NUMBER OF COERCIVE PROCESSES IN 1874-75.

Province.	Revenue demand in lakhs.	Writs of demand.	Arrests.	Distraints.	Sales.
North-Western Provinces ...	419	80,013	910	2,499	171
Oudh	139	22,390	812	969	160
Punjab	191	39,693	56	53	Not shewn.
Central Provinces	60	3,988	104	114	16
Bombay	257½	59,682	*Nil*	2,635	Not shewn.
				Value of property.	
				Rs.	Rs.
Madras	365½	336,266	*Nil*	16,70,085	5,59,978

The Central Provinces take the lead in facility, as well as in punctuality, of collection. The enormous number of suits of demand is a peculiarity of the Madras system, with its minute subdivision of fields. Further details will be found in the provincial summaries.

INCIDENCE OF REVENUE DEMAND PER CULTIVATED ACRE.

The incidence of the land revenue per cultivated acre may next be shown. This of course is never constant, but changes with every extension or contraction of the area of cultivation. Still, on the whole, the figures in the tables appended may be accepted as fairly representing the State charge upon the average cultivated acre in each province at present. In Madras and Bombay a distinction can be made in this respect between irrigated and unirrigated lands, but for the other provinces this is not possible. The first table shows the average for the whole province; the second compares the three heaviest assessed and the three lightest-assessed districts:

Province.	Average incidence per cultivated acre.		
	Irrigated.	Unirrigated.	Total.
	Rs. As. P.	Rs. As. P.	Rs. As. P.
North-Western Provinces	.....	.....	1 11 10
Oudh	.....	.....	1 12 1
Punjab	.....	.....	0 15 4
Central Provinces ...	.....	.....	0 6 9
Madras*	4 8 5	1 1 3	1 11 7
Bombay	3 11 3	0 12 9	0 15 4

Average rate on wet and dry lands together:—

	Heaviest-assessed districts.			Lightest-assessed districts.		
	I.	II.	III.	I.	II.	III.
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
North-Western Provinces ...	2 8 0	2 7 4	2 6 9	1 3 9	1 1 10(†)	0 10 3
Oudh	2 5 9	2 5 6	2 5 5	1 7 0	1 3 4	1 1 7
Punjab	1 15 6	1 13 6	1 11 9	0 7 8	0 5 10(†)	0 3 3
Central Provinces ...	0 11 6	0 11 2(†)	0 9 10	0 4 0	0 3 11	0 2 9
Madras	3 12 11	3 9 3	2 11 9	1 2 5	0 13 10	0 11 4
Bombay	4 3 3	3 6 4	3 6 0	0 8 1	0 7 5	0 7 1

The maximum in Madras and Bombay exceeds that in Upper India. But there is a curious coincidence between the provincial average rate of Madras* and that of the North-Western Provinces and Oudh, and between the provincial average rates of Bombay and the Punjab. The Central Provinces are conspicuous for the extreme lightness of their assessment, whether we regard maximum, minimum, or average rates.

FINANCIAL PROSPECTS OF FUTURE SETTLEMENTS.

The foregoing pages will have given a general notion of the manner in which the land-revenue settlements now current

* It is to be noted that the Madras revenue includes the Government water-rate on canal-irrigated lands, which is not counted as land revenue in any other province.

(†) In these cases there are two districts with the same average rate.

have been made, and of their financial consequences. It remains only to consider whether there is any means by which the revision of them can be more cheaply and expeditiously effected. This is perhaps the most important part of the subject.

Past results.

Looking back over settlement work during the last 30 years, there is no doubt that, as a mere financial speculation, it has paid well. The least productive outlay—that in Madras—has yielded a return more than double the rate at which the Government could borrow money in the market. And the Madras settlements are at a disadvantage, as compared with those of Upper India, in having to work with a much more expensive survey, and in being the first of their kind. The North-Western Provinces furnish the best example of the return that can be obtained on the outlay incurred in re-settling a whole province. If a return of 34½ per cent. were to be expected at each revision of settlement in the future, the question of a permanent settlement would cease to have any meaning. But there are always certain districts which do not repay the cost of settlement; and even where settlement operations are most splendidly remunerative, they inevitably bring much trouble and anxiety upon the whole agricultural interest. It is of the first moment that this should be reduced to a minimum, or avoided altogether, where necessary, by leaving the settlement unrevised.

Orders of the Government of India in August 1879.

In August 1879 the question arose whether revision of settlement, with all the expenses it involves, should be undertaken as a matter of course in the North-Western Provinces, the Punjab, and Bombay. Original settlement work, as in Madras, was considered to be necessary in order to remove inequalities of assessment, and to provide a record of rights, but as no such necessity existed for the revision of existing settlements, it seemed doubtful whether, in the actual state of the finances, the expense was worth incurring for the sale of a small gain of revenue. The Government of India, therefore, ruled that no new re-settlement operations should be undertaken, unless it could be shewn either that the proceeding would result in an adequate increase of revenue, or that such special circumstances existed as would justify a large outlay without any corresponding revenue gain. Ten per cent. on outlay was regarded as the minimum return which would ordinarily justify expenditure incurred in revision of

settlement. At this time the only districts in the North-Western Provinces still unrevised were Moradabad, Agra, Hamirpur, and Banda. Settlement operations were already in progress, and they were allowed to go on to completion. Taking all four districts together, the probability is that the 10 per cent. condition will not be satisfied in their case, the reason being the heavy reductions and great cost of the Banda settlement. In the Punjab, reason has been shewn for believing that the revisions of settlement now proceeding (in Hoshyarpur, Ludhiana, Sirsa, and Jullunder) will satisfy the condition as to return on outlay. The return from Bombay revisions of settlement has hitherto far surpassed the 10 per cent. minimum.

Future expectations.

If we take a wider view, including not only revisions now in progress, but those which will fall due within the next 30 years, the general expectation would seem to be as follows:—The Central Provinces will come up for revision of settlement in the course of the next seventeen years; that is, the first of the current settlements expires this year (1880), and the last will expire in 1897; and within the next four or five years re-settlement operations will be extensively in progress. A considerable increase of revenue may be looked for. The present assessments are known to be light, and the development of the province has been continuous since they were first imposed. In the Punjab, revisions of assessment are going on already, and will continue uninterruptedly as the current settlements fall in. Hitherto the gain expected has justified the outlay, considered merely as a financial undertaking. The return is estimated at about 18 per cent. on settlement expenses in Hoshyarpur, 40 per cent. in Ludhiana, 15 per cent. in Jullunder, and 17 per cent. in Sirsa; while the local Government is so confident of similar results elsewhere, that arrangements have been made for the gradual re-settlement of the whole province. The Bombay revisions of settlement now in progress have yielded a return of 38 per cent. so far as they have gone. Re-settlement in Madras, the North-Western Provinces, and Oudh, is yet distant; but it has been calculated that a large increase of revenue may be expected in Madras; in Oudh it is known that much room still exists for development, and it is only since settlement that the province has been opened up by the railway; while

in the North-Western Provinces, apart from the extension of cultivation, the general consensus of opinion among settlement officers, in the settlements just concluded, is that rents have not yet risen to their ultimate level. On the whole, if so distant a forecast be permissible, it seems that the land-revenue settlements now current in the temporarily-settled parts of British India will be capable of revision, on the expiry of their several terms, in such a manner as to pay a high rate of interest on the outlay incurred.

DESIRABILITY OF SOME EASIER AND LESS EXPENSIVE METHOD OF MAKING SETTLEMENTS.

At the same time, the necessity of some cheaper and speedier method of revision has long been admitted. The last occasion on which the subject came under consideration seems to have been in 1871, when the idea of a permanent settlement of the North-Western Provinces was finally abandoned.* In a Minute by His Excellency the Viceroy, four principal modes of ascertaining the value of land were specified, viz.,—

The papers of 1871.

(1) Quantity of produce.
(2) Price of produce.
(3) Quality of soil.
(4) Letting value.

But these are really reducible to three, for the first two must be combined before a money valuation can be arrived at. Now, the first two correspond exactly to the grain-values and commutation-prices of the Madras system; the next (3) is the basis of the Bombay system; the last (4) is the basis of the system in the North-Western Provinces and Oudh, and plays an important part in the Central Provinces and the Punjab, though these two latter provinces employ also modes (1) and (2). The Minute goes on to suggest that "the main principle upon which the "future demand for land revenue might "be decided is the average market price of "agricultural produce, the Government "percentage of future profit being regu-"lated at the same proportion to price as "it bore at the time of settlement. But, "in addition to this, it might be fair to take "into account, to a certain limited extent, "the increased quantity of produce, as "evidenced by the amount which passed "through the markets of each district. "This, however, should bear a much "smaller proportion to the fixed percentage "of profits than the price." The value of labour, which increases with prices, and is a

* Papers on the question of extending the permanent settlement to the Upper Provinces of the Bengal Presidency; extra *Supplement to the Gazette of India*, 3rd October 1871.

claim in favour of the revenue payer, was to be set off against the increase in quantity of produce not fully taken into account.

Facility of Madras revisions.

It will be observed that these are exactly the principles of the Madras system.* The original intention was to make the Madras grain-values permanent. On this point, after a prolonged correspondence, the local Government were overruled by the Secretary of State. The principle, however, remains that the increased quantity of produce (excepting in cases of extended canal-irrigation, &c., which can be separately dealt with), if not altogether excluded from consideration, shall play a very minor part in determining the revised assessments. For the rest, the Madras system lends itself immediately to the plan of deciding "the future demand for land "revenue" by "the average market price "of agricultural produce." No fresh survey and soil-classification will be needed. The new commutation prices once decided upon, the rest of the work will be calculations on paper, and the revision of the land revenue demand will cost the merest trifle, compared with the expense of original settlement operations.†

Facility of future revision of settlement in Bombay.

This immediate arithmetical connection between prices and assessments exists nowhere but in Madras. But though not capable of exhibition in the form of a sum in arithmetic, the connection is no less real under the Bombay and new North-West systems. A good proof of this is afforded by the reductions of assessment made in the Poona and Sholapur districts in 1875.‡ The revised assessments in these districts were based on a number of considerations, viz.,—

(1) Increase of cultivation.

(2) Increase of population and stock.

(3) Improvement of communications.

(4) Selling value of land.

(5) Rise of prices.

The first two points are merely tests of the general prosperity of the people. The third is one cause of the fifth; the fourth is an effect of it. It is the fifth point that is the logical basis of assessment; and it was recognised as such by the orders of 1875, reducing the first

* Attention had been called to them at the time by a Minute of the Honourable Mr. (now Sir John) Strachey.

† Such at least are the anticipations of the present Director of Revenue Settlements. See Mr. Puckle's Note at the end of the provincial summary for Madras.

‡ See the provincial summary for Bombay.

revised assessments, simply because they had been based upon an abnormal state of prices, which could not last. A moment's reflection will shew that the revision of ryotwari assessments must tend to resolve itself into a question of prices. The original assessments were not imposed on any theory as to the value of produce or the proportion which the State can claim. But once imposed, they must represent the value of *some* share (though unknown) of the produce. In the course of years, that share becomes more valuable as prices rise; and the rise of prices should therefore be the measure of the additional assessments to be imposed on every field, in order to secure to the State the full value of its share. Practically, of course, enhancement is not made up to the full level of the increase in prices; but prices are the great determining element in the revision of assessments. Improved cultivation, *i. e.*, increase in the quantity of produce, is also taken into account. Thus the Bombay system complies essentially with the principles suggested in 1871. The inexpensiveness of the procedure depends entirely upon the extent to which it is possible to dispense with fresh survey and classification of soils. In the ideal case where those could be done without altogether, the new assessments might be arrived at almost as quickly and cheaply as in Madras, but of course not with the same demonstrable accuracy. It is believed that the survey and classification work of the later original settlements will nearly satisfy these conditions. But the revision of the earliest-made original settlements has been but little aided by the original survey and classification. A saving of about 25 per cent. in time is all that has hitherto been found possible.

Connection between the Bombay maximum rates and the price of grain.

Necessity of fresh survey and classification of soils.

Next in order comes the new North-West system, meaning by this the system of deducing assessments from rental by elaborate investigation and analysis of rents, whether the process be generalised as in the North-Western Provinces, or confined to each village individually, as was mostly the case in Oudh. Unfortunately there is no means, under this system, of applying the known rise of prices directly to the assessments. There is no known or ascertainable ratio of the rise of rents to the rise of prices. So long as the system remains what it is, there will always be the necessity of ascertaining rents afresh at every revision of settlement. It will not be possible to revise the assessments simply

Facility of revision of assessment in the North-Western Provinces and Oudh.

with a view to the increased value of produce. The question then is, how far the ascertainment of rents can be simplified. This is conditional upon the trustworthiness of the village papers. If these could be accepted implicitly, or with but a moderate amount of correction, the work of re-assessment could mostly be done on paper. It may be possible, in certain districts, to adopt this method; while in other and more numerous instances the village papers may be capable of utilisation far more than they were in the settlements just made, and the result may be a considerable saving of time, and consequently of expense.

Importance of the village papers.

Facility of revision of assessment in the rest of Upper India.

For the rest of Upper India, except in certain tracts where true rents exist, the assessments are evolved from a number of considerations of a very general character. Here it is impossible to estimate how far revision work can be simplified in the future, if it can be simplified at all.

Question of the permanent maintenance of provincial settlement departments.

There remains a point of importance suggested by the form which re-settlement operations have assumed, or are about to assume, in the Punjab. It is a question of interest for all Upper India, viz., whether revision work might not be simplified and cheapened by keeping up a permanent settlement department. This is the rule in Southern India. The Bombay settlement and survey department has existed for little short of half a century, and the present revisions of assessment will keep it in work for a quarter of a century longer, by which time the first revised assessments will in their turn be ready for revision, and a new cycle of operations will begin. The same is the case in Madras, where the first settlement expires before the last settlement will have been completed, and where it will, therefore, be necessary to maintain "the nucleus of a "settlement department."* Such a permanent department, in Southern India, ought to be comparatively inexpensive, working by those easy methods explained above, and passing on rapidly from district to district. In Upper India the inexpensiveness is not so obvious. Where an increase of revenue is to be expected (as is mostly the case), it is the interest of the State to impose the new assessment as soon as the term of the old one expires; else the increase is lost for the interim, no assessment being imposable with retrospective effect. If settlements in a number of districts expire together, a small settlement department cannot take the revision of

* Mr. B. K. Puckle's Note.

them all in hand at once, and the choice will lie between the extra cost of a large department, and the loss entailed by postponing a possible revenue gain, while the small staff labours through each district in turn. In the Punjab the dates of expiry of settlements are conveniently timed so as to cover a period of 30 years, during the whole of which time no more than five districts, as a rule, will be under revision of settlement at once; and when the last revised settlements have been finished, the first revised settlements will be ready to fall in. But the case of the North-Western Provinces, Oudh, and the Central Provinces is different. As many as eighteen districts of the North-Western Provinces have been under settlement operations at one time. It does not follow, of course, that a similar plan of working must be adopted in revising these settlements; but some difficulty would probably be experienced in arranging for the conduct of revision operations by a limited number of settlement parties, without entailing a loss of revenue from deferred assessments. This is even more plainly the case in Oudh and the Central Provinces, where the dates of expiry of current settlements are crowded within a much shorter interval—18 years in Oudh, and 10 years in the Central Provinces—and where the settlement department, however organised, could hardly be a *permanent* one.

Setting aside these difficulties, there is much to be said in favour of a trained settlement department, of limited dimensions, moving from district to district. Even if possible enhancements of revenue were foregone for an interval, much advantage would be reaped from the consistent application of fixed principles and rules of procedure. Any arrangement would be welcome which should tend to lessen the expense, labour, and delay that now accompany settlement operations. The amount of work involved in settling a district is very great; in settling a province, it is enormous. The most urgent question in connection with land-revenue settlements is to devise some method whereby this work shall be invested with a permanent value, and shall not have to be done afresh at every revision of settlement.

THE SETTLEMENTS OF UPPER INDIA,

viz.,

THE NORTH-WESTERN PROVINCES,

OUDH,

THE CENTRAL PROVINCES,

AND

THE PUNJAB.

NORTH-WESTERN PROVINCES.*

PROVINCIAL SUMMARY.

Land-revenue system of the North-Western Provinces.

THE North-Western Provinces are under what is known as a mahalwar settlement; that is, the territorial unit of land assessment is the mahal or estate. This means any local area held under a separate engagement for the payment of the land revenue, and for which a separate record of rights has been framed. The settlement is also, and more commonly, called mauzawar, *i. e.*, a settlement by villages; and in settlement reports the village is usually treated as the statistical unit. In an account of settlement procedure, it is often convenient to ignore the distinction between the village and the mahal, though in matters of revenue administration the difference is a very marked one.† Frequently the village is a mahal in itself; but a mahal may contain several villages, and a single village may be divided into several mahals. The former case seldom occurs, except in the districts bordering on Bengal. The latter case is common, and yearly increases with the partition of villages originally constituting single mahals. But whatever the size of the mahal, whether embracing several villages, or consisting only of a small fraction of one, it is assessed to land revenue as a whole, and the proprietor, or the body of coparcenary proprietors, is held liable for the annual payment of the lump sum assessed.

The mauza and the Mahál.

The settlement under Regulation IX. of 1833.

The first regular settlement of the North-Western Provinces (excepting Dehra Dun and parts of Bundelkhand) was made between 1833 and 1844 for a term of 30 years.‡ The standard of assessment was two-thirds of the assets, that is, two-thirds of the gross rental of lands cultivated by tenants, and a like proportion of the net profits of lands cultivated by the proprietors themselves, as estimated by the

* In these notes upon the North-Western Provinces, valuable assistance has been received from Mr. J. S. Mackintosh, Secretary to the Board of Revenue.

† Writing in 1844, Mr. Thomason says of the North-Western Provinces settlement—"It is called the mauzawar system, but perhaps mahalwar would be a more correct term." There is the more reason for this remark at the present day, as villages have become more split up into mahals.

‡ The term was somewhat shorter in Saharanpur, Bulandshahr, Gorakhpur, and Muzaffarnagar. Act VIII. of 1846 fixed the dates of expiration as follows: Saharanpur, 1857; Bulandshahr and Gorakhpur, 1859; Muzaffarnagar, 1861; Meerut and Farrukhabad, 1865; Bijnour and Budaon, 1866; Bareilly and Azamgarh, 1867; Aligarh and Shahjahanpur, 1868; Allahabad, 1869; Mainpuri, Cawnpore, Fathpur, 1870; Etawah and Muttra, 1871: Agra, Moradabad, and Hamirpur, 1872; Banda, 1874.

settlement officer at the best of his discretion. These settlements proved successful on the whole. The original proprietors disappeared under them in many districts, but cultivation generally increased, and the fact that the assessments have almost everywhere been raised on revision proves that they were tolerably fair when first imposed.

The directions to settlement officers.

In 1844 a settlement code was drawn up by Mr. Thomason, then Lieutenant-Governor of the North-Western Provinces. Though modified by later rules of practice, these Directions to Settlement Officers are still a standard authority.* Two important changes were made in 1855, when the settlement term of Saharanpur was about to expire. One of these was the reduction of the assessment standard from two-thirds of the calculated assets to one-half; the other was the adoption of the plane table survey in lieu of the rough chain survey previously in use.

* They were republished in 1858, and have been adopted as the general basis of instructions to settlement officers in Oudh, the Central Provinces, and the Punjab.

Revision of the original settlement.

The Saharanpur settlement expired in 1857, and revision of settlement has been going on all over the province, as the districts successively fell in, from that date to the present time, when only portions of two districts† remain to be assessed. Until about 1869 the work was done by Collectors, with the aid of special Assistants, and ten‡ whole districts, and parts of four§ others, were actually settled in this way, but in some cases the results had to be revised by a settlement officer. Experience proved that the work was more than a Collector could undertake in addition to his ordinary duties, and the rest of the province has been settled by officers specially deputed for the purpose, and called settlement officers. They are selected from the covenanted civil staff, and are under the immediate supervision of the Board of Revenue. Assistant settlement officers are similarly selected; and the uncovenanted civil staff, European or Native, furnishes settlement deputy collectors with powers equal to those of an assistant.

† Hamirpur and Banda.

‡ Saharanpur, Lalitpur, Gorakhpur, Jhansi, Bulandshahr, Dehra Dun, Muzaffarnagar, Garhwal, Meerut, Budaon.

§ Etah, Jalaun, Bijnour, Bareilly (subdivision of Pilibhit).

Settlement law.

The old law relating to settlements in the North-Western Provinces was contained in a number of Regulations, of which the most important were VII. of 1822, prescribing the main principles of settlement, and IV. of 1828 and IX. of 1833, amending and adding to it. The existing law is Act XIX. of 1873, with the rules framed under it by the Local Government and the Board of Revenue. In the following account of settlement procedure, the provisions of the Act have

been referred to in all important particulars.

Settlement procedure.

Whenever the Local Government thinks that any district or other local area should be brought under settlement, it publishes a notification specifying such area, and appoints a settlement officer, with the necessary assistants. Proprietors are called upon to erect boundary marks defining the limits of their villages, mahals, or fields; and in default of compliance within fifteen days, the settlement officer may erect boundary marks himself and recover the cost as an arrear of revenue. Usually the demarcation of boundaries is a comparatively simple business. Only village boundaries require to be permanently demarcated, and disputes are either referred to arbitration, or decided at once by the settlement officer on the basis of possession.

Demarcation of boundaries.

Saharanpur Rules, paras. II., III., V., VI., VIII.

The field survey.

The original intention was that the field survey should be done by the patwaris (village accountants) under proper supervision. The method adopted was that of the plane table, and Collectors were expected to train the patwaris, pargana by pargana, with the help of skilled amins, who, again, were to be immediately controlled by the tahsildar, while the Collector should satisfy himself, by frequent and careful personal inspection, and by occasionally testing the documents prepared, that the work was progressing rapidly and with accuracy. In 1869 the order directing that field measurements should be carried out by patwaris was set aside, and settlement officers were authorized to employ amins, *i. e.*, "professional "and skilled measurers," whenever (as was mostly the case) the patwari was incompetent. Besides measurements, the field survey includes the classification of soils, and the preparation of a field register and field map, the latter exhibiting the position of every field, while the register records the names of the proprietor and tenant, the area, rent, soil-class, and other particulars. These are the two fundamental records of the settlement, and their accuracy is ensured by close supervision on the part of the settlement officer, and by constant testing of the measurements, as regards both village boundaries and fields, and of the entries relating to owners and cultivators, classification of soils, irrigation, and all other points. The degree of accuracy attained by these field surveys has been very respectable. The village maps turned out by them are amply sufficient for every purpose of settlement and revenue

Revenue Administration Report of 1868-69, para. 219.

Soil-classification: the field register.

Accuracy of the field survey.

North-Western Provinces Resolution No. 1458, dated 17th September 1871, para. 4.

administration, while the areas recorded in the field register, if short of absolute scientific accuracy, are quite true and close enough for all practical ends. The scale is usually 16 inches to the mile. In the areas of *fields*, the difference arising from any more scientific kind of survey would be infinitesimal. In the areas of *villages*, the settlement maps do not differ, on an average, more than 2 per cent. from those prepared by the Revenue Survey under the Surveyor-General of India. This Revenue Survey is totally distinct from the field survey made by settlement officers. It originated with the settlements of 1833-44, and was intended as a collateral help to the settlement officer. The design was that the scientific surveyor should make a topographical map of the village, on a scale of 4 inches to the mile, and should also make a field map, which the settlement officer was to check. As a matter of fact, however, the making of the field map soon passed entirely into the hands of the settlement officer, while the topographical maps made over to him by the scientific surveyor were useful mainly or solely as a check upon the field maps as regarded village configuration and total area. On these principles the Revenue Survey of the North-Western Provinces was carried out in many districts contemporaneously with the settlements of 1833-44. It is open to question whether its cost, estimated at 22 lakhs, should be reckoned as a part of settlement expenditure; but, at any rate, it belongs to the old settlements, not to those which have just been made. The Revenue Surveys chargeable to the latter are only such as have been made since 1844 and before the conclusion of the recent revisions. These are no more than the following:

The Revenue Survey of 1833.

The Revenue Survey since 1853.

District.	Years of survey.	Cost.	
		Rs.	
Bijnour	1868-71	1,12,963	
Bareilly	1866-72	1,38,535	
Jalaun, Jhansi	1853-60	1,91,738	(with Native States).
Lalitpur (part)	1860-62	48,392	
Gorakhpur (part)	1854-57	31,242	

Appendix A. of Surveyor-General's Report for 1876-77, page 90.

The topographical maps furnished by the Revenue Survey are much superior to the pargana and district maps compiled from the field maps by the settlement survey. Their exactitude as to bearings and distances, and the precision with which

Pargana maps of the field survey: topographical maps of the Revenue Survey.

they mark natural features, make them a useful aid to the district officer, especially in camp. But the revenue administration of the district turns upon the field map of the settlement survey, and, as already noted, it may be questioned whether the revenue survey expenses should be counted as a part of settlement costs. They have not been so counted in the figures shewn separately against each district in subsequent portions of this Note.

The Cadastral Survey.

In later days the Revenue Survey has assumed another form, superseding the settlement officer's field survey altogether. This change dates from 1872, when the local Government suggested the advantage of a cadastral survey of the permanently-settled districts,* under the Surveyor-General of India. While negativing this proposal for the time (it has since been accepted, and the survey is proceeding), the Government of India directed that in so many of the temporarily-settled districts as had not yet come under measurement by the settlement department, the survey for settlement purposes should be a cadastral one, in other words, that the field survey should be executed not by amins under the settlement officer, but by scientific survey parties under officers appointed by the Surveyor-General of India. At that time there were only five such districts, viz., Muttra, Agra, Moradabad, Banda, and Hamirpur. In all five the cadastral survey has taken the place of the settlement officer's field survey common to the rest of the province. Besides the gain in accuracy (which, as noted above, is not a matter of much practical significance) the new survey has led to the introduction of better-printed maps. The success attained in turning out the cadastral field maps by photozincography has been such as to encourage the reproduction, by the same process, of the field maps made by amins in previously-settled districts, and this has now been undertaken in the districts noted in the margin. At the same time, the cost of the cadastral survey considerably exceeds that of the settlement survey. The excess was estimated at Rs. 50,000 for an average-sized district, but this has proved to be far under the truth. Including a proportionate share of the pay of settlement officers, the field survey of the Cawnpore district, which was exceptionally expensive, cost Rs. 114 per 1,000 acres; that of Fatehpur, Rs. 88; of Aligarh, Rs. 64 only. The cadastral survey of Hamirpur has cost Rs. 128 per square mile, or Rs. 200 per 1,000 acres; that of Agra, Rs. 250 per 1,000 acres; of Banda, Rs. 262; of Moradabad, Rs. 279; and of

* Benares, Mirzapur, Jaunpur, Ghazipur, part of Azamgarh.

Improvement in printing maps.

Budaon, Bareilly, Meerut, Aligarh, Bulandshahr, Muzaffarnagar.

Comparative costliness of the settlement officer's survey and the cadastral survey.

Muttra, Rs. 289. The actual expenses compare as follows:

District.		Area surveyed, in square miles.	Cost. Rs.	
Settlement survey.	Cawnpur	2,446	1,78,980	
	Fatehpur	1,580	89,173	
	Aligarh	1,957	80,240	
Cadastral survey.	Moradabad	2,527	4,54,304	
	Agra	2,190	3,50,552	
	Muttra	1,369	2,53,358	
	Banda	1,895	3,17,311	(incomplete).
	Hamirpur	2,296	2,93,174	

Principles of assessment as prescribed in the Directions to Settlement Officers.

Directions, paras. 48—50.

According to the Directions to Settlement Officers, the assessment of estates (that is, generally speaking, of villages) was to be based upon a comprehensive survey of general considerations. It was not to be calculated by any fixed arithmetical process, or by "any rule that a certain "portion of the gross or net produce shall "be assigned to the Government and to "the proprietors," the reasons being (1) that the net produce could not be satisfactorily ascertained, and (2) that, even if ascertained for any given year or series of years, it would afford no certain guide to the produce of years to come, which must depend upon the extension or contraction of cultivation, the improvement or deterioration of agriculture, and the development of markets and communications. The settlement officer was to proceed openly on the assumption that the operation of assessment "is not one "of arithmetical calculation, but of judg-"ment and sound discretion." The means of arriving at a correct opinion are described as (*a*) the return (from the field map and register) of the cultivated and culturable area of the village, the irrigated and unirrigated land, and the different soils; (*b*) the experience of past settlements, of previous litigation, the price realized if the village has ever been brought to sale, mortgages, farming leases, &c.; (*c*) the gross rental of the village, as compared with that of other villages in the same tract; (*d*) the character of the people, style of cultivation, capability of improvement, and state of the market for produce; (*e*) the opinions of the pargana officers, and the estimate of neighbouring zamindars. For the gross rental of the village, where rents were paid in kind, or where the rent-roll was open to suspicion, it was believed that the settlement officer's "personal observation, aided by the know-"ledge he should have acquired of the "description or class of the cultivating "community," would enable him to estimate the average rent-rate per acre with a very close approximation to the true value. The settlement officer was

Para. 53.

Para. 58.

The 'aggregate to detail' process.

recommended not to fix his demand finally at once, "but having roughly assumed at "first what seems in each case to be fair, "thence to determine the new jama* of "the pargana by taking the total of these, "and then by the reverse or back process "to re-distribute, either himself, or by the "help of others, the pargana total over the "several villages." Certain cautions were superadded. Too much stress was not to be laid on the former assessment of a village, which might be unduly high, though the proprietors had consented to pay it rather than lose their land. Similarly, the acceptance of a jama by the zamindar was not to be taken as a sure proof of its moderation. Jamas were not to be too rapidly enhanced, and care was to be taken not to tax capital sunk in improvements, further than was necessary to secure "the just right of the Government to a "portion of the net produce of the land." Too much importance was not to be attached to the maintenance of equal averages, whether over general area, or on different qualities of soil. The settlements of 1833-44 were said to be generally favourable to good villages, but unduly heavy upon poor ones.

Paras. 62—66.

Methods of assessment actually adopted.

These general directions have everywhere been taken as a guide in determining the *amount* of assessment. But the *process* of assessment actually adopted in the present settlements differs widely from that which they recommend. An exception may be made of some portions of districts earliest settled by Collectors (*e. g.*, parts of Gorakhpur and Bijnaur), where the plan followed was the 'aggregate to detail process' of the old regular settlement, and the assessing officer first estimated the lump assessment of the pargana by calculation of gross rental and comparison of former assessments, and then proceeded to distribute this over the villages according to circumstances. In Meerut the Collector relied mainly upon his assumed revenue-rates per bigha on wet and dry land without distinction of soils. The greater part of the Jhansi division, again, was assessed by methods more or less resembling those of the old settlement school. But elsewhere the first step towards the assessment of a district has been the calculation of average rent-rates; that is, the fair rent paid per acre of cultivated land. The assessments of the later-settled districts have been built up, so to speak, from the rent-rates; and, generally speaking, average

Average rent-rates.

* Jama means the land revenue assessed upon any given area.

rent-rates have everywhere entered largely into the calculation of the revenue demand. In the earlier settlements they were determined by various methods, according to the discretion of the settlement officer. The simplest plan was to divide the aggregate rental of the villages in a pargana, or in an assessment circle,* by the aggregate area of rent-paying land. The cash rental was ascertained from the rent-rolls, and the cash value of rents in kind, as well as the rental value of lands cultivated by the proprietors themselves, was calculated by the use of estimates of outturn and value, founded upon experiment and analogy. The process might be made more elaborate by applying it to the area and rental of each different kind of soil, distinguished into irrigated and unirrigated. The classes of soil might be either natural (clay, loam, and sand) or artificial (homestead, middle, and outlying lands). Then the general averages thus obtained for the different circles could be checked by comparison with each other, and with different rent-rates in parts of the same circle; with averages struck over large areas in various directions; and with the results of the settlement officer's personal inquiries from village to village. By one or more or all of these methods, average rent-rates were arrived at for the pargana or the assessment circle, or for each class of soil in either. Applying these average rates to the cultivated area of the village, the result was the gross rental at assumed rent-rates. Adding in whatever extra manorial profits there might be, and halving the sum, the result was the assumed assessment or jama; subject, of course, to modification on the general considerations noted above.

Mr. Elliott's method.

As the settlement of the provinces went on, these processes tended to become more and more elaborate, till, from the simple Saharanpur division of rental by area to give an all-round rent-rate irrespective of soil-classes, they developed, in Bareilly, into the calculation of average rent-rates on soils by a special staff of statistical clerks. At last the process was reduced to almost scientific precision by Mr. C. A. Elliott in his settlement of Farrukhabad. His method, which has been adopted in all later settlements, was the foundation of the rules drawn up by the Board of Revenue

* An assessment circle is a more or less homogeneous tract of country, containing a number of villages grouped together for assessment purposes.

in 1875.* It is based primarily on the division into natural soils, and secondarily on the division into artificial areas, due to differences in manure and irrigation, which, by the agricultural custom of the province, are allowed to have a material influence on rent-rates. The soil-classes are those generally recognized by the people, and usually are not numerous—simply following, under various names, the three main distinctions of clay, loam, and sand. The artificial factors of manure and irrigation render their subdivision into subordinate classes necessary; and in the case of Farrukhabad (Mr. Elliott's district) and many other districts of the Central Doab, the areas thus subdivided were found to depend in a very great degree upon the distance of the cultivated land from the inhabited portion of the village. In many cases the houses of the cultivators were originally built near the most fertile plot of soil in the village area, which was subsequently enriched by the addition of wells and manure. Moreover, the proximity of fields to the houses of their owners naturally gave much greater facilities for constant attention and assiduous culture than could be afforded to distant land. Thus a custom was found to have grown up under which almost every cultivator possessed some fields near to, and some distant from, the village site, the former becoming in the process of time far more valuable from their subjection to higher culture than the latter. This custom led to the assumption, on which Mr. Elliott's system was based, that recognized village rent-rates exist as averages over recognized areas (called *hârs*) since it was found that higher rates were almost invariably attached to the better cultivated areas, only a portion of the rental value being attributable to the natural advantages of soil which they possessed. The *hârs* are usually three in number—homestead, middle, and outer†—in the first of which the artificial factors have so strong an influence that the natural distinctions of soil are generally obliterated; but in the middle and outer

Division of the village area into hârs.

* The account of the new system of settlement contained in this and the following page has been kindly contributed by the Director of Agriculture and Commerce, North-Western Provinces (Mr. E. Buck). My acknowledgments are also due to his *locum tenens*, Mr. F. N. Wright.

† The commonest vernacular names for the three classes are as follows:

Homestead	...	Gauhan, goind, gonda, bâra.
Middle	...	Mânjha.
Outer	...	Bâhira, barhet, dândepar, uparhâr.

divisions, varieties of soils and natural advantages or disadvantages have a marked effect on rent-rates, and lead to the formation of distinct subordinate *hars*, or homogeneous blocks of land, often known to the people by distinct names.

Adoption of this method in existing rules.

The leading principle of the later settlements under the Board's revised rules is that the settlement officer should first demarcate in each village all distinct and recognized *hârs*, next ascertain the recognized rent-rate of each *hâr*, and lastly collate throughout each circle or section of a district under treatment the rates paid on each set of similar *hârs*. In this way for each class of homogeneous land, possessing similar advantages of soil and conditions, a prevailing rate is found. The rules regarding the demarcation of *hârs* are as follows:

North-Western Provinces Notification No. 197 A, dated 28th September 1875.

"When the measurement operations in "any local area are sufficiently advanced, "the settlement officer whose duty it is "to assess that area shall proceed to in- "spect it for the purpose of assessment "during the field season. At the time of "inspection he shall divide each village "into blocks or areas, of which the soil "or advantages differ *inter se* to such an "extent as to warrant a separate classifi- "cation.

"He shall also inquire into the prevail- "ing rates of rent for each class of land "in each block, both by local inquiry and "by examination of the village records, "and shall shew the area of each class "of soil in each block, and (as far as "possible) the actual rental paid by that "portion of it which is held by tenants.

"If the rentals are recorded in lump, "so as to make it impossible to shew the "actual rental paid on each class of soil "in each block, the rentals of holdings "shall be examined and analysed in suffi- "cient number to justify the assumption "of a rate as the prevailing rate for each "class."

Actual process of calculating rent-rates.

While inspecting the villages, the settlement officer records notes of agricultural statistics and of all facts of importance connected with the history and actual condition of the village and its proprietors. At the same time he groups the villages into assessment circles. From the list of villages in the assessment circle he excludes all those which offer no fair criterion of average rents (such as rack-rented villages, or villages entirely cultivated by the proprietors, or where the tenantry are related to the proprietors, and hold at easy rents),

leaving only average representative villages. The amended list is sent into the statistical office, where the rent of every field, as recorded in the field register, is placed under the soil class, natural or artificial, to which the field belongs. Abnormally high or low rents are then eliminated, and the rental of the remaining fields of the class, divided by their area, gives the average rent-rate of that class for the circle. The accuracy of the data having already been ascertained by constant testing, the results are accepted as the genuine average rent-rates which rule throughout the circle.

The Rent-rate Report.

When settlement operations have reached this stage in a pargana, the settlement officer submits his 'Rent-rate Report' for the pargana to the Board of Revenue, shewing the circumstances of the pargana, the process followed, and the proposed assessments. On receipt of sanction to the proposed rent-rates, the settlement officer proceeds to assess each mahal, recording his reasons for such assessment at full length. The assumed rent-rates applied to the area of the *hárs* give the assumed assets of the village, with whatever addition may be necessary for miscellaneous manorial profits; and half this sum, as modified by general considerations, is the assessment of the village. Engagements are taken from the proprietors of mahals for the term of settlement. This is usually 30 years, but is sometimes less by a few years in the latest-settled parganas of a district where the settlement term runs from the date of engagements in the parganas settled first. The proprietors may either accept or refuse the offered engagements. If they refuse, the mahal can be farmed or held in direct management for a period not exceeding 15 years, at the end of which time the mahal is offered to "the "person then entitled to be settled with" for the rest of the term of settlement; and in the event of his refusal, the mahal is managed as before. All persons thus excluded from settlement are entitled to an allowance of 5 to 15 per cent. on the jama, and also hold their sîr land at a rent four annas in the rupee less than that paid by tenants-at-will for similar land. Sîr land means land which a proprietor cultivates himself, as distinguished from land which he lets out to tenants.

Act XIX. of 1873, sections 45—52.

Term of settlement.

Exceptional methods of procedure.

The above is a general sketch of the process of assessment to land revenue in a settlement made under the North-Western Provinces system. It must not,

however, be supposed that all settlement officers, even in the later settlements, have followed prescribed rules with literal and undeviating fidelity. Allowance has to be made for the circumstances of one district as compared with another. A most striking example of this is furnished by the latest-assessed district, Hamirpur, where the plan followed was practically that so common in Oudh, viz., the determination of village rent-rates, and thence the gross village rental, without regard to the average rent-rates of the circle or the pargana. Each village, in fact, was assessed on its merits. Hamirpur is a comparatively backward district, and one can easily see that where rents are less competitive than customary or casual, the system of averages begins to be unsafe.

The record of rights.
Sections 62—68, Act XIX. of 1873.

The final operation of a settlement consists in framing the record of rights. This comprises a series of papers relating to both proprietors and tenants. The record of proprietors varies according to the tenure. The simplest case is where the mahal is possessed in absolute proprietary right by a single owner (zamindar). Where it is held by a coparcenary body, the tenure may be zamindari, pattidari—perfect or imperfect—or bhayachara. Zamindari tenures are those in which the whole land is held and managed in common, the rents paid by the cultivators, whether those cultivators be the proprietors themselves or not, being thrown into a common stock, with all other profits from the estate, and, after deducting expenses, divided among the proprietors according to their recognised shares. Pattidari tenures are those in which the lands are divided and held in severalty by the different proprietors, each person managing his own lands, and paying his fixed share of the revenue, while the whole are jointly responsible in the event of any one sharer being unable to fulfil his engagements. Imperfect pattidari tenures are those in which part of the land is held in common and part in severalty, the profits from the land held in common being first appropriated to payment of the revenue and village expenses, and the overplus being distributed, or the deficiency made up, according to a rate on the several holdings. Where the holdings and the revenue liability of the several proprietors are regulated, not by ancestral right, but by arbitrary village custom, the tenure is called bhayachara. Here the measure of a man's share in an estate is the cultivated land he occupies, and the revenue is annually distributed over such

Directions to Settlement Officers, paras. 83—96.

Land tenures.

holdings by a rate or 'bâchh.' T
tenure is peculiar to villages where a
or nearly all, the cultivated area is till
by the proprietors themselves.

Sections 44, 65, Act XIX. of 1873.

Lumberdars.

In all coparcenary estates the payme
of revenue is made through certain p
sons who engage with the Governme
on behalf of the rest. These are call
lumberdars. There may be several lu
berdars to a mahal. The lumberdar c
recover his quota of revenue from
co-sharers by suit in the revenue cou
The custom as to the election or successi
of lumberdars, the distribution of profi
the respective liability of co-sharers
the revenue demand, and all other matt
of village economy which concern p
fits or revenue, are recorded in separ
papers.

Taluqdari tenures.

The taluqdari tenure has almost ceas
to exist in the North-Western Provinc
Its distinctive feature is the recogniti
of two proprietary interests in the villag
one superior—that of the taluqdar, a
the other inferior—that of the villa
zamindars who used to pay their re
nue through him. In these provin
" the conflict, which went on a generati
" back between those who fought for t
" village communities and those who ma
" tained the rights of the taluqdars," end
in the defeat of the latter, but t
taluqdars " were consoled with the la
" rent charge or malikana of 18 per ce
" on the assets of the estates they claime
The law at present in force permits sett
ment either with the inferior or t
superior proprietor, as the rights of t
case may demand. The share of the p
fits due to each is determined; if t
superior proprietor is settled with, a su
settlement is made, securing the infer
proprietor his share; while in the c
verse case, the superior proprietor dra
his malikana from the Government tr
sury, into which the inferior proprie
is bound to pay it, together with t
jama of the estate. In general terms,
may be said that the superior right h
been everywhere commuted into a fix
money payment, amounting, as a rule,
10 per cent. on the revenue; and th
is drawn by the taluqdar from the tr
sury, leaving the zamindars practically
enjoyment of the absolute proprieta
right. A few taluqdari tenures still
main which resemble those of Oud
described in the note on that province.

Administration Report of 1873-74, introductory chapter, para. 27.

Powers of the civil court.

All these various interests in the la
are entered in the record of rights on t
basis of actual possession, and all disput

Section 64, Act XIX. of 1873.

regarding such entries are taken up and decided by the settlement officer on that basis. Parties not in possession, but claiming the right to be so, are referred by him to the civil court.

Tenants.

As regards tenants, the record of rights consists of a rent-roll, with cognate documents, shewing the fields held by each tenant, the rent due, and whether he is a tenant-at-will, or enjoys a right of occupancy, such as accrues from twelve years' continuous tenancy. There is also a separate rent-roll of under-tenants.

Waste lands.

It remains only to note the settlement of waste land. As a rule, the proprietors enjoy all the waste included in their estates, and so much of it as they bring under cultivation during the term of settlement is pure gain to them until the next revision. But where the waste land belonging to an estate is so extensive as, in the opinion of the settlement officer, confirmed by the Board of Revenue, to exceed the requirements of the proprietor for cultivation or pasture, a separate settlement may be made of the excess portion, and the first option of engaging for it shall be offered to the proprietor. If he refuses, the new waste mahal remains at the disposal of the Government. Similarly, the Government asserts its right over waste lands which do not form part of any estate; they are marked off into mahals and separately settled. In the case of waste resumed from an estate, the proprietor is entitled to a rent charge of 5 to 10 per cent. upon the net revenue realized by the Government from such waste land.

Sections 57—61, Act XIX. of 1873.

Duration of settlement operations throughout the Province.

Although some measurements in the Saharanpur, Gorakhpur, Jalaun, and Lalitpur districts were made before the mutiny, and three parganas in Jhansi were actually assessed, yet settlement operations in the North-Western Provinces may be said to have begun in 1858-59, and as the completion of the assessment of the last district (Banda) may be expected about 1882-83, the settlement of the whole province will have taken about 24 years. Excluding the unfinished district of Banda, the financial results are shewn as follows:

Financial results.

Years of settlement.	District.	Old assessment.	New assessment.	Difference.	Per-centage.	Co
		Rs.	Rs.	Rs.		
1854—1870 ...	Saharanpur ...	11,00,679	11,72,862	72,183	6·5	2,0
1859—1871 ...	Gorakhpur-Basti ...	20,82,599	28,73,593	7,90,994	38	3,9
1858—1865 ...	Bulandshahr ...	11,32,727	12,96,263	1,63,536	14·4	2,7
1860—1875 ...	Muzaffarnagar ...	11,19,825	12,24,191	1,04,366	9·	4,1
1865—1870 ...	Meerut ...	18,26,141	24,84,675	3,58,534	19·6	3,8
1864—1872 ...	Budaon ...	9,28,478	10,29,418	1,00,940	10·9	4,4
1863—1873 ...	Etah ...	7,32,461	9,39,220	2,06,759	28·25	3,9
1864—1874 ...	Bijnaur ...	11,83,585	11,83,029	—556	...	5,3
1865—1872 ...	Bareilly ...	13,78,320	16,62,670	2,84,350	20·6	3,9
1865—1872 ...	Pilibhit ...	3,12,860	4,02,715	87,855	27·9	7
1867—1874 ...	Shahjehanpur ...	9,75,273	11,84,425	2,09,152	21·4	5,8
1863—1875 ...	Farrukhabad ...	11,25,346	12,46,470	1,21,124	10·8	5,0
1866—1874 ...	Mainpuri ...	11,21,289	12,76,430	1,55,141	13·8	3,9
1868—1874 ...	Etawah ...	11,91,304	13,27,651	1,36,347	11·44	3,4
1866—1874 ...	Aligarh ...	18,47,769	21,47,342	2,99,573	16·2	4,6
1866—1877 ...	Azamgarh ...	12,45,722	16,61,623	4,15,901	33	7,3
1867—1878 ...	Allahabad ...	19,85,703	23,83,088	3,97,385	20	11,0
1868—1878 ...	Cawnpore ...	21,30,405	21,60,682	30,277	1·42	6,9
1870—1877 ...	Fetahpur ...	14,08,715	13,07,297	—1,01,418	7·2	5,6
1872—1879 ...	Muttra ...	13,57,382	15,31,304	1,73,922	12·9	6,0
1872-1880 ...	Hamirpur ...	10,81,190	10,69,307	—11,883	1·1	8,4
	Moradabad ...	12,02,092	14,49,333	2,47,241	17	8,0
	Agra ...	16,29,344	18,06,060	1,76,716	11	7,0
1860—1867 ...	Dehra Dun ...	40,200	64,876	24,676	60	8
1853—1869 ...	Lalitpur ...	1,67,193	1,47,802	—19,391	1·16	1,9
1854—1867 ...	Jhansi ...	5,56,825	4,81,874	—84,951	15	1,4
1853—1874 ...	Jalaun ...	8,91,962	9,06,208	14,246	1·6	2,1
1863—1873 ...	Kumaun ...	1,27,109	2,30,628	1,03,519	81·43	3,2
1856—1864 ...	Garhwal ...	69,274	96,311	27,037	39	7
	Total ...	3,19,51,772	3,67,47,347	47,94,575	15	1,29,3

There remains the uncompleted dis
of Banda. Revision of settlement
so far as it has gone, has entail
decrease of revenue. Taking the
assessment of the district in 1876-77,
again as modified by the new assessm
up to date, and adding in the cost,
grand provincial total stands as below.

Old assessment.	New assessment.	Difference.	Per-centage.	Co
Rs.	Rs.	Rs.		R
3,32,56,635	3,79,67,719	47,11,084	14·14	1,36,7

The results have been differently
puted in the annual reports of the Se
ment Department, and in a stater

North-Western Provinces letters No. 575 A, dated 20th April 1876, and No. 371, dated 7th September 1876.

furnished by the local Government in 1876. The principal reasons of the discrepancy are progressive assessments, the exclusion of the unrevised portions of Banda, and the inclusion of half the Collector's pay as a part of settlement expenses where the Collector has been permanently or temporarily in charge of settlement work. Thus computed, the financial results of settlement work from the 1st April 1854 to the 30th June 1879 appear as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,28,48,040	3,73,54,688	45,06,648	13·7	1,41,88,875

Settlement Progress Reports of 1877-78 and 1878-79.
The costs have been calculated as follows:

	Rs.
To 31st March 1876 ...	1,14,67,989
31st March to 30th June, at one-fourth of 1875-76 expenses ...	2,83,986
To 30th June 1879 ...	24,36,900
Total ...	1,41,88,875

Financial results differently calculated.

Another way of exhibiting the financial results of the settlement of the province is to take the actual land revenue collections of the latest year, and compare them with the aggregate of the district assessments in the years before revision. Only temporarily settled districts are counted. The year taken is the revenue year ending the 30th June 1877, in preference to the subsequent year 1877-78, when considerable suspensions or remissions of revenue were made on account of drought. A better test would be the average collections of the last five years, but many of the new settlements are too recent for that. As it is, the Banda and Hamirpur districts have to be omitted, as the new assessments had not been declared by 1876-77; and the settlement expenses in Agra, Muttra, and Moradabad since the 30th June 1876 have been deducted, as their results first appear in the revenue-roll of 1877-78. The collections and old assessments taken for Azamgarh relate to the entire district, as the revenue-roll makes no distinction between permanently and temporarily-settled parganas. The aggregate result is as follows:

A third method of calculation.

Old assessment.	Collections of 1876-77.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,11,27,800	3,53,47,961	42,20,161	13·56	1,11,54,357

By each of these three calculations, the settlement would repay its expenses in about three years. The revenue gained represents a return on settlement outlay of 34·5, 31·8, and 37·8 per cent. respectively. Similarly, the proportion of settlement expenses to one year's revised revenue appears as 36, 38, and 31·5 per cent.

Result of including cost of the Revenue Survey.

If the costs of the revenue survey be added, these results will appear less favourable. The total expenditure on revenue survey since 1844 amounts to Rs. 5,22,870. This would raise settlement expenses, as shewn by the first method of calculation, to Rs. 1,41,98,064 and would reduce the return from 34·5 to 33·2 per cent. Similarly, the return by the second method of calculation would fall to 30·6 per cent., and by the third to 36·1 per cent. on settlement expenses, including those of the revenue survey.

Comparative expensiveness of district settlements.

The districts with least revenue in proportion to their area were naturally the most expensive to settle, as Lalitpur, the Dun, and Kumaun, where the costs of the settlement actually exceed an entire year's revenue according to the new assessments, and Garhwal, where they are nearly equal to a year's revenue. The least expensive settlements were, of course, those done by Collectors, as in Gorakhpur, Basti, and Meerut, where the costs were only one-seventh of a single year's revenue; the Pilibhit sub-division of Bareilly, where the ratio is one-sixth; and Saharanpur and Bulandshahr, where it is one-fifth. The original settlement of Muzaffarnagar cost only one-fifth of a year's revenue; but subsequent revision raised the proportion to one-third. Budaon (two-fifths) and Jhansi (one-third) are exceptions, costing relatively more than some districts settled by settlement officers. Among these latter, the cheapest-settled districts are Aligarh, where settlement expenses were one-fifth of annual revenue secured; Bareilly, Etawah, and Jalaun (one-fourth); and Mainpuri and Cawnpore (one-third). In Moradabad the costs of settlement have absorbed four-sevenths of a year's revenue; in Hamirpur, more than four-fifths; results partly due to the expensiveness of the cadastral survey, partly to the large area and small revenue of Hamirpur. In Etah, Farrukhabad, Azamgarh, Fatehpur, Muttra, and Agra, the proportion is considerably under one-half; in Bijnour, Shajahanpur, and Allahabad it is somewhat under one-half.

Loss of revenue in six districts.

It will be observed that there are six districts—Bijnour, Fatehpur, Hamirpur, Banda, Lalitpur, and Jhansi, where settlement operations have not added anything to the revenue, but, on the contrary, an expenditure of Rs. 30,40,188 has resulted in reducing the annual revenue demand by Rs. 3,02,690; and further reductions in Banda may be expected.

In Bijnaur the sacrifice of revenue may perhaps have been unnecessary. In Fatehpur and the four Bundelkhand districts it was really needed. And in all cases there are advantages to be set against the loss, as the more equal distribution of the assessments, the alleviation of their pressure where it was excessive, and the formation of a complete record of rights, involving the settlement of several thousand disputed claims.

Duration of settlement work in the various districts.

The Jhansi division was longer under settlement than any other part of the province. Counting from the beginning of measurements to the date of report, settlement work was going on in Jhansi for 13 years, in Lalitpur for 16 years, and in Jalaun for 21 years. But it was not continuous; it was interrupted by the mutiny, and also by other causes incidental to settlement work carried on by the district staff in a region of poverty and uncertain harvests such as Bundelkhand. In Gorakhpur-Basti, Saharanpur, Muzaffarnagar, and Farrukhabad, settlement operations lasted about twelve years. These were all settlements made by Collectors. The great size of the first-named district (now two districts) explains the time taken to settle it; in fact, the settlement was expeditiously made. Revision of the Collector's original settlement prolonged operations in Saharanpur and Muzaffarnagar; while Farrukhabad was the first district assessed on the new or scientific method. Kumaun, Etah, Allahabad, and Bijnour come next as regards length of settlement operations, which lasted about ten years in each case. Kumaun is a very large district in the Himalayas; and work in the other three districts suffered a good deal from changes of officers. In all the other districts of the province, the time occupied in making a settlement was seven to eight years, except Meerut, which was settled by the district staff in five years.

Treatment of irrigated lands.

In four districts (Shahjahanpur, Bijnour, Jhansi, and Jalaun), and in parts of two others (Etah and Gorakhpur-Basti), separate rent-rates were not framed for irrigated land. It is generally true that the capability of irrigation is almost as much a determining element in the rental of a field as actual irrigation; and, as a rule, it is the best soils only that are irrigated. Hence soil-classification might be regarded as sufficient in itself, without the further distinction of lands into wet and dry. This is especially true of the high-

class cultivation in the homestead circle; and in fact there are five districts (Mainpuri, Etawah, Azamgarh, Allahabad, and Muttra) where the distinction between wet and dry lands, though observed elsewhere, has been considered unnecessary within the homestead circle, and in Muttra within the middle circle also. Again, in Budaon the maximum rent-rates for both wet and dry lands are the same in all classes of soil, and it is only on inferior sub-divisions of each class that a difference is noticeable. But in the great majority of districts, irrigated land has been carefully distinguished from unirrigated throughout the entire village area, and two distinct sets of rent-rates have thus been framed under each soil class. The difference in value thus shewn to exist between wet and dry land varies much in different districts. In Saharanpur, Bulandshahr, Farrukhabad, Mainpuri, Aligarh, and Fatehpur, irrigated land rents for about twice as much per acre, on an average, as dry land; in Muttra, Agra, Muzaffarnagar, and Meerut for about half as much again; elsewhere the average difference is about one-third, but falls as low as one-sixth, or disappears entirely, for some classes of soil.

General view of rent-rates.

The following tables shew the rent-rates used for irrigated and unirrigated lands in each district. Hamirpur and the Jhansi division have been omitted, as differing in their classification of soils. The mountain districts of Kumaon and Garhwal have also been left out.

For Irrigated Lands.

District.	Homestead.		Clay.		Loam.		Sand.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Saharanpur	8 0 0	6 0 0	5 0 0	3 12 0	5 0 0	3 12 0	2 4 0	...
Gorakhpur-Basti	No such class.		3 13 0	...	4 0 0	...	2 4 0	...
Bulandshahr	12 0 0	5 0 0	Rs. 5 4 0 to Rs. 3 8 0					
Muzaffarnagar	9 7 4	2 15 4	7 8 0	1 13 3	6 12 0	2 6 0	3 15 6	1 7 11
Meerut	No such class.		7 9 3	2 12 5	6 5 9	2 7 5	5 6 2	1 10 9
Budaon	5 0 0	3 0 0	4 8 0	1 8 0	4 0 0	2 0 0	3 0 0	1 8 0
Etah	11 13 0	...	4 0 0	...	5 4 0	...	3 15 0	...
Bijnaur	10 9 8	...	5 3 6	...	5 8 0	...	2 10 0	...
Bareilly	No such class.		4 12 0	2 3 0	6 6 0	2 1 1	4 0 0	1 8 0
Pilibhit Sub-division			5 0 0	2 8 0	5 8 0	3 0 0	4 0 0	2 0 0
Shahjahanpur	8 0 0	...	4 0 0	...	5 0 0	...	2 8 0	...
Farruckhabad	10 8 0	6 2 0	6 8 0	...	7 0 0	3 15 0	4 6 0	2 10 0
Mainpuri	12 4 7	...	...	...	5 11 4	3 1 2	3 15 2	2 10 2
Etawah	10 8 0	...	5 4 0	2 10 0	6 9 0	3 8 0	3 15 0	...
Aligarh	12 4 8	8 4 0	Rs. 5 0 0 to Rs. 4 6 3					
Azamgarh	8 15 7	...	Rs. 4 8 0 „ Rs. 2 12 4					
Allahabad	12 0 0	...	6 8 0	3 12 0	8 8 0	3 0 0	6 6 0	2 14 0
Cawnpur	14 0 0	6 0 0	6 0 0	2 8 0	7 0 0	4 0 0	6 0 0	2 8 0
Fatehpur	12 8 0	7 8 0	5 12 0	...	7 8 0	4 8 0	4 4 0	...
Muttra	14 0 0	...	Rs. 7 4 0 to Rs. 3 8 0				3 0 0	...
Dehra Dun	3 8 0	2 8 0	...		2 4 0	1 8 0	1 4 0	1 0 0
Agra (average rates)	Rs. 8 0 0		Middle, Rs. 6 6 0		Outlying, Rs. 5 0 0			

Note.—Where the maximum rent-rate only is shewn, the corresponding minimum will be found under the proper column in the table of rent-rates on dry lands. The districts where this occurs are those in which irrigation was taken into account merely as one of the elements determining the class of soil, *i. e.*, their highest class is the best irrigated, bearing the maximum rent-rate; their lowest class is the worst unirrigated, bearing the minimum rent-rate.

FOR UNIRRIGATED LANDS.

DISTRICT.	Homestead. Max.	Homestead. Min.	Clay. Max.	Clay. Min.	Loam. Max.	Loam. Min.	Sand. Max.	Sand. Min.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Saharanpur ...	6 0 0	3 8 0	3 6 0	2 4 0	3 6 0	2 4 0	2 2 0	1 8 0
Gorakhpur-Basti ...	No such class.		...	1 0 0	...	1 0 0	...	0 12 0
Bulandshahr ...	7 0 0	2 8 0	Rs. 2 8 0 to Rs. 1 12 0					
Muzaffarnagar ...	6 6 0	2 4 0	5 4 0	1 9 4	5 2 0	1 11 2	2 11 1	1 0 0
Meerut ...	No such class.		5 6 1	1 11 0	3 13 6	1 13 4	3 11 6	1 1 7
Budaon ...	5 0 0	2 2 7	4 8 0	1 8 0	4 0 0	1 8 0	3 0 0	1 0 0
Etah ...	...	5 0 0	...	1 15 8	...	1 7 7	...	0 12 9
Bijnour ...	...	5 14 0	...	1 5 0	...	2 0 0	...	1 6 2
Bareilly ...	No such class.		3 6 0	2 0 0	4 6 0	1 12 0	3 12 0	1 8 0
Pilibhit Sub-division			3 12 0	1 7 4	4 0 0	1 12 0	3 0 0	1 0 0
Shahjahanpur ...	...	3 12 0	...	1 12 0	...	1 8 0	...	1 2 0
Farruckhabad ...	5 4 0	2 10 0	4 13 0	...	4 6 0	1 12 0	3 8 0	1 5 0
Mainpuri ...	...	4 6 3	2 3 1	1 10 1	2 3 1	1 12 1	1 12 1	0 14 1
Etawah ...	...	4 6 0	6 0 0	2 10 0	6 0 0	0 14 0	...	1 9 0
Aligarh ...	5 4 3	3 8 2	...	...	3 0 0	2 10 2	2 0 0	1 10 4
Azamgarh ...	...	4 10 1	Rs. 3 1 4 to Rs. 2 5 0					
Allahabad ...	...	5 0 0	4 8 0	1 8 0	6 2 0	1 14 0	4 4 0	1 0 0
Cawnpore ...	7 0 0	5 0 0	6 0 0	1 0 0	6 0 0	2 8 0	5 0 0	1 0 0
Fatehpur ...	6 0 0	...	...	2 4 0	4 4 0	2 12 0	2 8 0	...
Muttra ...	...	5 0 0	Rs. 5 4 0 to Rs. 2 12 0				2 0 0	1 4 0
Dehra Dun ...	2 0 0	1 4 0	...	...	1 4 0	0 14 6	0 12 0	...
Agra (average rates)	Rs. 5 4 0		Middle, Rs. 4 12 0		Outlying Rs. 3 1 0			

Note.—Where the minimum rent-rate only is shown, the corresponding maximum will be found under the proper column in the table of rent-rates on irrigated lands.

Rent-rates in Bundlekhand.

The rent-rates of the Bundelkhand districts are based on a different classification of soils. Here the black cotton soil comes in, and the poorer soils are gravelly or stony, instead of hard clay or pure sand, as in the rest of the province. The rent-rates are as follows:

DISTRICT.	Black soil. Max.	Black soil. Min.	Light soil. Max.	Light soil. Min.	Gravelly soil. Max.	Gravelly soil. Min.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Jhansi ...	4 9 1	0 15 6	3 14 0	0 11 0	3 14 0	0 7 0
Jalaun ...	4 13 0	2 4 0	3 8 0	1 12 11	2 11 8	0 15 0
Lalitpur ...	5 0 0	0 8 0	.....	.....	3 8 0	0 4 0
Hamirpur	4 12 5	2 8 0	3 13 3	1 12 7	2 8 3	1 0 3

In Jalaun alone is there any distinction of irrigation. The maximum rent-rates shown there are for irrigated, and the lowest for dry lands.

Highest rent-rates.

The rates shewn in these two tables cannot be analysed with advantage. But it will be useful to bring together the districts with the highest rent-rates for each class of soil, wet and dry.

District.	Best homestead lands.		Best clay.		Best loam.		Best sand.	
	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
Cawnpore ...	14 0 0	7 0 0	6 0 0	6 0 0	7 0 0	6 0 0	6 0 0	5 0 0
Muttra ...	14 0 0	.....	.....	.....	7 4 0	5 4 0	3 0 0	2 0 0
Fatehpur ...	12 8 0	6 0 0	5 12 0	.....	7 8. 0	4 4 0	4 4 0	2 8 0
Aligarh ...	12 4 8	5 4 3	.....	.....	5 0 0	3 1 4	.....	.....
Mainpuri ...	12 4 7	.....	.....	2 3 1	5 11 4	2 3 1	3 15 2	1 12 1
Bulandshahr ...	12 0 0	7 0 0	.....	.....	5 4 0	2 8 0	.....	.....
Allahabad ...	12 0 0	.....	6 8 0	4 8 0	8 8 0	6 2 0	6 6 0	4 4 0
Farrukhabad ...	.....	.....	6 8 0	4 13 0	7 0 0	4 6 0	4 6 0	3 8 0

Relation between rent-rates and assessments.

Revenue-rates, if revenue-rates had been framed, would be, theoretically, half the rent-rates. Thus one might say that the best homestead land in the North-Western Provinces is taxed at Rs. 6 to 7 the acre if irrigated; and at Rs. 2-10-0 to Rs. 3-8-0 if unirrigated; that the best clay land pays Rs. 2-14-0 to Rs. 3-4-0 or Rs. 1-2-0 to Rs. 3; the best loam Rs. 2-8-0 to Rs. 3-12-0 or Rs. 1-2-0 to Rs 3-1-0; and the best sandy soil Rs. 2 to Rs. 3-3-0, or Rs. 0-14-0 to Rs. 2-8-0, according as it is irrigated or unirrigated. As a matter of fact, however, the assessments are not made per acre of land, but are got by halving the calculated rental of the estate. The calculation of rental value depends partly upon the rise of prices.

Throughout the greater part of the province, prices have risen by 40 to 50 per cent. during the currency of the last settlements. But it has everywhere been found that the rise of rents has not kept pace with the rise of prices. Hence the assessments, when first declared, have generally been in excess of the half-assets limit, because they were based on the assumption that backward rents could be raised to the level of the representative rents used in framing the rent-rates. In Bareilly the future rise of rents was reckoned at 16·5 per cent., and in Aligarh it was estimated that rents ought to be 60 per cent. higher than they were at the making of the old settlement. In Farrukhabad the enhancement of rents during settlement reduced the ratio of assessments to rental from 57 to 51 per cent., and in Etawah the proportion similarly fell from 65·5 to 58·1. The settlement officers of Allahabad, Shahjahanpur, and part of Etah expressly state that the rise of rents in the immediate future was calculated on in making the assessments. On the other hand, in Muttra and Fatehpur, rents were supposed to have generally reached their due limit. But the only districts in which the assessments are shewn as less than half the estimated rental at settlement are Azamgarh, with a revenue incidence of 48 per cent. on rentals, and the early-settled districts of Saharanpur (49·1 per cent.), Budaon (45·6 per cent.), Bijnour (42·6 per cent.), and Etah (46 per cent). There can be little doubt that before the expiry of the present settlements, rents will be double the revenue demand in the most highly-assessed parts of the province, while in the majority of districts this ratio will be considerably exceeded.*

Ratio between assessments and gross produce.

The proportion borne by the land tax to the value of the gross produce of the land is very variously estimated. It appears as 20 per cent. in Gorakhpur-Basti, but this is certainly over-estimated; as 14·7 and 14·8 per cent. in Saharanpur and Budaon; as 10, 9·4, and 9·11 per cent. in Fatehpur, Aligarh, and Etawah; and as 4·6 per cent. only in Azamgarh.

Revenue incidence per acre.

The revenue incidence per cultivated acre, as also per assessable acre, that is, on every arable acre, whether cultivated or waste, is shewn in the following table. The districts have been grouped according

* NOTE.—It may be useful to state again that local cesses are not reckoned. They are 12 per cent. on and in addition to the land revenue.

to their average rates, and the figures in each case relate to the year of settlement.

District.	Revenue incidence					
	Per cultivated acre.			Per assessable acre.		
	Rs.	As.	P.	Rs.	As.	P.
Cawnpore ...	2	8	0	1	15	10
Fatehpur ...	2	7	4	1	11	8
Etawah ...	2	6	9	1	14	6
Aligarh ...	2	6	3	2	3	2
Muttra ...	2	5	8	2	4	5
Allahabad ...	2	4	11	1	12	7
Azamgarh ...	2	4	4	1	11	5
Agra ...	2	3	11	1	14	8
Mainpuri ...	2	1	7	1	12	0
Meerut ...	2	1	5	1	11	1
Bijnour ...	1	15	2	1	4	8
Farrukhabad ...	1	14	7	1	7	11
Moradabad ...	1	13	1	1	8	2
Muzuffarnagar ...	1	12	11	1	6	7
Bareilly (and Pilibhit)	1	12	7	1	5	0
Shahjahanpur ...	1	9	7	1	3	4
Saharanpur ...	1	9	7	1	4	3
Bulandshahr ...	1	9	5	1	3	0
Etah ...	1	8	3	1	3	3
Jalaun ...	1	7	8	1	4	3
Jhansi ...	1	4	10	0	13	1
Hamirpur ...	1	4	9	1	0	5
Budaon ...	1	3	9	0	15	2
Dehra Dun ...	1	1	10	0	6	11
Gorakhpur-Basti ...	1	1	10	0	13	4
Lalitpur ...	0	10	3	0	2	9
Whole Province ...	1	11	10	1	8	9

Increase of cultivation.

The assessments being made on each estate as a whole, and not being liable to vary with the extension or contraction of cultivation, it follows that the reclamation of waste lands lowers the revenue incidence per cultivated acre, and that this incidence rises if land is thrown out of cultivation, the estate having to pay the same annual sum, whether cultivated or waste. It would be interesting to quote the present revenue incidence per cultivated acre, as shewing how far cultivation has extended under the new settlements; but there are no accurate statistics. The figures given in the provincial Administration Report for 1878-79 are quoted in the district notes below, but they cannot be accepted with confidence, and in any case they would not represent a normal state of things, for they relate to the revenue year ending 30th June 1878, during which a large proportion of the kharif area in many districts was left uncultivated by reason of drought. Under

the old settlements, cultivation increased considerably, as the following table will show. It includes all the districts where particulars on this subject have been given.

District.	Percentage of increase.	District.	Percentage of increase.
Gorakhpur-Basti	45	Etawah ...	21
Shahjahanpur ...	31	Mainpuri ...	20
Azamgarh ...	30	Bulandshahr ...	14½
Bareilly ...	30	Farrukhabad...	12
Etah ...	30	Saharunpur ...	11·6
Bijnaur ...	29	Aligarh ...	7
Allahabad ...	28	Muttra ...	6·7
Budaon ...	24	Cawnpore ...	4
Meerut ...	22	Fatehpur ...	3

The last four on this list are old settled districts, where cultivation had almost reached its limit thirty years ago.

Practical working of the new settlements.

In only a very few instances have the new settlements been found to require re-consideration. A reduction of about Rs. 17,000 has been made since settlement in the assessment of the Puranpur pargana of Bareilly, and another, of about the same amount, in part of the Etah district. Large remissions have been necessary in Jhansi, but recent and thorough investigation has clearly established the fairness of the revenue demand in the worst parganas of the district. The assessments are below half assets, and the impoverished condition of the zamindars is to be ascribed to other causes, of which the principal are the double collection of revenue in 1857-59, once by the rebel government and again by the district officers when order was restored; the losses suffered in the drought and famine of 1868 69; the inroad of *kans* grass; and a succession of bad or indifferent seasons, almost unbroken for the last fifteen years. Generally speaking, the new settlement of the North-Western Provinces has worked very well. The first-settled districts are those assessed most lightly, as Saharanpur, Gorakhpur and Basti, Bulandshahr, Meerut, Budaon. It is noteworthy that no considerable increase of revenue was expected in the early days of the settlement.* The local Government wrote as follows in 1861: "In the re-settlements "of Saharanpur and Bulandshahr, it is pro- "bable that the net result will be a small "gain to the Government; but in many "of the districts which, in a few years, will

Comparative lightness of the earlier settlements.

Administration Report of 1859-60 para. 104.

* The question indeed at that time was whether the settlement should not be declared permanent. In 1868, the marked increase in assets in certain districts attracted attention; the new assessments in Muzaffarnagar were ordered to be revised; and it became evident that the re-settlement of the province would result in a considerable increase of revenue. The history of the Permanent Settlement controversy is told in Mr. Auckland Colvin's Memorandum on the Revision of Land revenue Settlements in the North-Western Provinces.

"become open to revision, it is likely that "the application of the liberal rule of "settlement at half the assets will, to some "considerable extent, affect the revenue. "Against this, however, may be placed the "general tendency of the revenue to ad- "vance, from the lapse of muafi tenures "and the settlement of confiscated jagirs.* "Upon the whole, then, it is not expected "that the land revenue of these provinces "will materially vary from its present "amount." As a matter of fact, it has varied to the extent of an increase of 47 lakhs. As settlement work progressed, greater strictness was used in assessing; and it may be said of most of the later settlements, as the local Government have said of the settlement of Aligarh, that "the demand cannot be called light; but "neither does it exceed the amount to "which the Government is entitled as its "share of the assets. It certainly is not "less than a full jama".

Annual arrears of land revenue.

The annual revenue roll of the province invariably shews a considerable balance of the demand of the year as unrealized. Omitting nominal items, such as arise from the appropriation of land for public purposes, or from reduced assessments not yet brought on the revenue-roll, the proportion of real balances to total revenue demand is shewn as follows for the six years ending 30th September 1879:

Year.	Revenue demand.	Balance.	Percentage.
	Rs.	Rs.	
1872-73 ...	4,02,49,008	2,15,689	0·53
1873-74 ...	4,17,63,401	3,66,880	0·88
1874-75 ...	4,19,09,099	2,68,831	0·64
1875-76 ...	4,21,08,348	2,20,786	0·52
1876-77 ...	4,25,53,278	1,88,770	0·44
1877-78 ...	4,27,72,165	10,81,680	2·52

But these 'real' balances include many items which can more properly be regarded as annual adjustments of the revenue demand than as instances of short collections. Such are fluctuations caused by losses from diluvion, from hail, from deterioration of estates by flooding or by the growth of *kans* grass; such also are summary suspensions of the revenue demand, pending regular reduction of assessments. If these items be taken out, the uncollected balance of each year's revenue, during the five years ending 30th September 1877, will appear as below. The famine year 1877-78 has not been

* A muafi tenure is a revenue-free tenure. A jagir may be either a revenue-free tenure, or a tenure at a low quit-rent, or an assignment of land revenue in favour of some private person. Either muafi or jagir may be granted for one or more lives, or in perpetuity.

reckoned in. The figures relate to the entire province, including the permanently-settled districts and the Tarai.

BALANCES OF THE YEAR.

Year.	Land revenue demand.	(1) In train of liquidation; (2) doubtful.	Percentage.	(3) Irrecoverable.	Percentage.
	Rs.	Rs.		Rs.	
1872-73 ...	4,02,49,008	1,70,714	0·42	6,518	0·015
1873-74 ...	4,17,63,401	1,95,756	0·47	14,322	0·035
1874-75 ...	4,19,09,099	1,37,315	0·33	24,844	0·05
1875-76 ...	4,21,08,349	1,23,834	0·29	18,126	0·045
1876-77 ...	4,25,35,278	1,53,234	0·36	10,910	0·025

A fairer idea of the punctuality with which the revenue is collected will be obtained by omitting the districts of Jhansi, Banda, Hamirpur and Fatehpur. The state of Jhansi has been described above. In the other three districts, revision of settlement has ended in a considerable reduction of assessments, and the balances annually shewn under the old settlement were really an informal way of affording relief. Omitting these districts, the results for the rest of the province appear as follows:

BALANCES OF THE YEAR.

Year.	Revenue demand.	(1) In train of liquidation.	Percentage.	(2) Doubtful.	Percentage.	(3) Irrecoverable.	Percentage.	Total percentage.
	Rs.	Rs.		Rs.		Rs.		
1872-73 ...	3,59,69,010	43,290	0·12	22,314	0·06	5,695	0·016	0·196
1873-74 ...	3,75,07,321	1,47,091	0·39	41,495	0·11	71,803	0·19	0·69
1874-75 ...	3,76,65,170	60,577	0·16	1,06,188	0·28	8,900	0·023	0·463
1875-76 ...	3,78,80,996	1,25,123	0·33	14,382	0·038	4,700	0·012	0·38
1876-77 ...	3,83,64,502	95,008	0·25	18,788	0·05	2,755	0·007	0·307

These figures include both balances proper and adjustments of the revenue demand. Deducting the latter, the table appears as subjoined.

BALANCES OF THE YEAR.

Year.	(1) In train of liquidation, and (2) doubtful.	Percentage.	(3) Irrecoverable.	Percentage.	Total percentage.
	Rs.		Rs.		
1872-73	28,434	0·08	5,215	0·015	0·095
1873-74	1,00,011	0·27	5,172	0·014	0·284
1874-75	61,687	0·17	7,306	0·019	0·189
1875-76	58,497	0·16	6,883	0·018	0·178
1876-77	96,877	0·25	2,755	0·007	0·257

Of the balances shewn against the year 1873-74, the sum of Rs. 42,959 is accounted for by the Basti district, where famine relief works had been open from January to July 1874.

Arrears of old standing.

Besides balances of the year itself, there is always a large balance outstanding on account of uncollected arrears of previous years. The amount of this for the last six years is shewn below, both for the whole province, and for the 31 districts remaining after leaving out the four mentioned above.

Year.	Outstanding Arrears. 33 districts.	31 districts.
	Rs.	Rs.
1872-73 ...	1,43,070	97,299
1873-74 ...	1,94,461	81,367
1874-75 ...	1,90,287	61,098
1875-76 ...	1,52,803	39,197
1876-77 ...	1,96,733	71,553
1877-78 ...	2,24,709	35,538

If the total collections of the year be looked to, *i. e.*, the collections both on account of current demand and on account of arrears, they will be found to compare as follows with the amount of the current revenue demand. The comparison is between the realised income of each year and the income borne on the year's revenue roll. The figures are for the entire province.

Year.	Current demand.	Total collections.	Difference.	Deduct nominal items.	Net difference.
	Rs.	Rs.	Rs.	Rs.	Rs.
1872-73	4,02,49,008	4,00,16,920	2,32,080	1,05,807	1,26,273
1873-74	4,17,63,401	4,13,65,341	3,98,060	1,14,413	2,83,647
1874-75	4,19,09,999	4,16,66,794	2,43,205	1,87,639	55,566
1875-76	4,21,08,348	4,18,54,892	2,53,456	1,76,657	76,799
1876-77	4,25,53,278	4,23,43,900	2,09,378	1,43,658	65,720

Coercive processes.

Coercive processes are numerous.* The number of writs of demand ought not, however, to be taken as a test of difficulty in collecting the revenue. They are simple notices to pay, issued ordinarily on the day following that fixed for payment, and more as a matter of routine than anything else. One proof of this is the large proportion of the revenue demand for which writs are annually issued. In 1873-74 this proportion was 35 per cent., and in the

* Section 150 of Act XIX. of 1873 is as follows:—An arrear of revenue may be recovered by the following processes:

(a) by serving a writ of demand (*dastak*) on any of the defaulters;

(b) by arrest and detention of his person;

(c) by distress and sale of his movable property;

(d) by attachment of the share, or patti, or mahal, in respect of which the arrear is due;

(e) by transfer of such share or patti to a solvent co-sharer in the mahal;

(f) by annulment of the settlement of such patti, or of the whole mahal;

(g) by sale of such patti, or of the whole mahal;

(h) by sale of other immoveable property of the defaulter.

The defaulter pays the costs of the writ of demand. On arrest, he can be detained in custody 15 days, unless the arrear and costs are sooner paid. Attachment *(d)* may not last longer than five years, and ceases if the arrear is liquidated in the meantime.

Transfers *(e)* and farms in consequence of annulment of settlement *(f)* may not be made for periods exceeding 15 years. (Sections 151-159).

three following years it was 37, 31 and 25 per cent. respectively. It is obvious that if there really was an yearly-recurring difficulty in paying up one-third of the revenue, the settlement of the province could not stand.

The minor and major coercive processes resorted to during the last six years are shewn in the subjoined tables:

	Minor Processes.			
Year.	Number of writs of demand.	Number of defaulters summoned to head quarters.	Number of order of distraints of personal property.	Number of sales of personal property.
1872-73	81,729	Not shewn.		
1873-74	85,591	310	739	Not shewn.
1874-75	80,013	910	2,499	171
1875-76	80,119	1,721	3,350	226
1876-77	60,932	1,933	3,128	187
1877-78	64,351	3,226	10,764	274

	Major Processes.		
Year.	Attachments or transfers.	Annulment of settlement.	Sales.
1872-73	67	13	0
1873-74	197	24	1
1874-75	193	27	5
1875-76	251	17	0
1876-77	184	22	6
1877-78	560	19	7

The last was a famine year. The average annual number of sales during the ten years ending 30th September 1874 was considerably less than two; since then, the average has risen to three.

Terms of settlement in the various districts.

With the exception of Dehra Dun, Hamirpur, and the Jhansi division, the present settlements are for 30 years. In the first settled districts, the term runs from an early stage of settlement operations, and is thus only about 23 clear years in Gorakhpur and Basti, and 27 clear years in Budaon; while in Saharanpur and Muzaffarnagar the settlement runs only for 20 and 24 years from the date of revising the Collector's original assessments. In the later-settled districts, the term has not been formally sanctioned yet, but it will in all probability be 30 years from date of assessment in every case, that is, 30 years clear for the district as a whole, though for the last assessed parganas the term may be somewhat shorter. The first of the present settlements to expire will be that of Jalaun in 1882, and the last that of Agra in 1908-10, or of Banda (if settled for 30 years) a year or two later.

Facility of future revision of settlement.

It is impossible to estimate how much of the work done in the present settlements will have to be done over again when they come up for revision. By far the most costly part of a settlement is the preparation of the record of rights.

The record of rights.

Sections 94—102, Act XIX. of 1873.

Nearly one hundred lakhs of expenditure, according to one account, may be set down to this work, necessitated by the inaccurate state into which the old records had been allowed to lapse. Once compiled by the settlement officer, the record of rights is maintained by the revenue officers of the district, who register all changes as they take place, and correct any errors which the parties interested admit to have been made in the record. Changes in proprietary right have to be notified to the revenue officers by the persons concerned; and changes of all sorts, whether affecting proprietors or tenants, are supposed to be noted by the patwari, and are recorded in the new set of papers he files every year. But a stricter system of annual revision is needed, and endeavours have been made of late years to organise such a system throughout the province. The main principles are—

(1) the keeping of village maps up to date, so as to obviate, as far as possible, the expenses of fresh survey on revision of settlement;

(2) the annual correction of the field register, upon which all the village papers depend;

(3) the formation of a series of statistical volumes, or digest of the village papers, shewing the fiscal and agricultural history of the mahal, village and pargana for the whole term of settlement.

The work goes on under the supervision of a special officer*, to whom the district revenue officers are so far subordinate. Revision and correction are made first by the village accountant, then tested by the supervising staff in its various grades (this staff has been re-organised and strengthened), and finally checked, as far as possible, by revenue officers in the field.

* The Director of Agriculture and Commerce.

There will, of course, be considerable difference, from district to district, as regards the extent to which these measures may be expected to affect future settlement operations. In some of the older-settled districts, a new survey and record of rights will be indispensable, and the same may be said of riverain villages, in whatever district situated, that are liable to great changes of area by alluvion and diluvion. But over a large part of the province it may be found possible to do without a new survey, and to accept the record of rights as corrected up to date.

Other statistics.

Again, the process of assessment ought to be considerably simplified and expedited by the work done during the currency of the present settlements. Collection of fresh statistics will to a great extent be obviated by the information accessible in the statistical volumes, if regularly kept up.

Rent courts and rent rates.

And for the determination of rent-rates there will be a specially trained staff ready to hand in the district Rent Courts, that is, the officers entrusted with the duty of enhancing rents, and of assessing rents upon lands hitherto rent-free or rented in kind. In both these cases, the revenue officer's system of assessing *rent* is based upon the same principle as the settlement system of assessing *revenue*; viz., the ascertainment of the "prevailing rate" of homogeneous classes of land in the neighbourhood. Revenue officers practised in work of this kind will be able to undertake the revision of assessments with advantages which the majority of settlement officers did not enjoy.

General expectations.

For these reasons, it would appear that the next settlement of the North-Western Provinces should cost less money and take less time than that which has just been accomplished at an average of eight years per district, and a cost of 142 lakhs. In their Report for 1877-78, the Board of Revenue, referring to the rules for the periodical inspection of the village papers, say—"The record system culminates in "these inspection rules, and, if properly "maintained under the superintendence of "the Director of Agriculture, who has, "under the Board's direction, the executive "control of the work, can hardly fail to "furnish better statistics, and supply a "much more complete knowledge of each "village in the province than has yet been "available, and will permit future revisions "of settlement to be effected at little cost "and with much greater accuracy". A practical instance, on a small scale, has already been afforded by a portion of the district of Cawnpore which had a quinquennial settlement. The Collector,* on the expiry of the settlement, found himself able to revise the assessments on the basis of the village records, except in villages where large changes had been wrought by fluvial action. It is true that only five years had elapsed since settlement, and that the Collector had been settlement officer in part of the district; still the example serves to shew what can be done with the village papers when properly handled.

Revenue Report for 1877-78, para. 152.

* Mr. F. N. Wright, now officiating as Director of Agriculture and Commerce.

Future financial results.

As to the financial results to be expected from the next revision of settlement, it is worthy of remark that, according to the general opinion of settlement officers, much room still remains for rise of rents, and consequently for increase of revenue. Some districts are exceptions; but the following extracts will illustrate the general view:

The settlement officer of Aligarh, one of the most highly-developed districts in the province, uses these words:—"My "opinion is that the rent-paying capacities "of the tenant are only at present being "tested; they have not yet been fathomed. "Occasionally instances are met which "illustrate this view. In a group of vil- "lages all perhaps paying adequate rents, "one belongs to a zamindar who is noto- "rious for getting as much out of the "land as he can. The soil and capabi- "lities of the village are not above the "average, yet the rents paid are abnor- "mally, and sometimes astonishingly "high. On investigation it is found that "the cultivators, though paying much "higher rents, are as prosperous as their "neighbours, and that no arrears of rent "accrue. To take such rates as examples "and apply them to similar soils would "involve such an enhancement both of "revenue and rents as would crush both "the proprietors and tenants of a pargana. "But I have little doubt that the impetus "having once been given, the tendency will "be for rents in general to rise to some "such point as I have instanced. A limit, "of course, it is impossible to fix. On the "whole, there can be very little doubt that "any approximation to the true idea of rent "is only beginning to be grasped by the "zamindar, and that until of late years "rents have meant little more than a slight "arbitrary increase on revenue-rates." On the settlement of the Gorakhpur and Basti districts the local Government remarked in 1873—"Great as the enhance- "ment has in many cases unavoidably been, "the increase of rental since the settlement "is reported to have been also great," and "a very considerable enhancement of "revenue" is expected when the settlement expires in 1889. On the Shahjahanpur settlement the Board of Revenue remark that in all probability rents will rise, during the currency of the settlement, far above the rent-rates on which assessment was made. The Budaun assessments are similarly said to be low; "if the assess- "ments were made now (1874), on prin- "ciples adopted at the present time, a much

"larger revenue would be obtained..... "Rents have risen largely since the settle- "ment officer made his assessments." The Saharanpur settlement is characterised by the local Government as having been made before the zamindars had thoroughly found out the power of enhancement given them; and since its completion, "the tendency towards cash rents and "enhancements has set in, and the com- "petition for land has become keener." Indeed, all the Upper Doab districts are known to be lightly assessed. And in Etawah and Farrukhabad the past settlement rise of rents has been found to exceed what was required to make assets double the new assessments. On the whole, there seems no reason to doubt that the next revision of settlement, in most of the districts of the North-Western Provinces, will be an undertaking sufficiently profitable from a merely financial point of view.

NORTH-WESTERN PROVINCES.

SAHARANPUR.

Area ... ... 2,221 *sq. miles.*
Population ... ... 883,782.

Page 2 of Board's report.

MEASUREMENTS began in 1854, were interrupted by the mutiny, and were completed in April 1858. Assessment began with the year 1859, by which time the new village records were ready. It was carried out by the Collector and a special Assistant, and the report was submitted in January 1863. A conference was held at Saharanpur in the December following, and in April 1865 the then Collector, aided by an Assistant Settlement Officer and a Native Deputy Collector, was empowered to revise the settlement made by his predecessor. The work was continued by the officer who next succeeded to the charge of the district, and the final report was submitted in February 1870. Excluding interruptions, but reckoning the revision work as a part of settlement operations, the whole settlement occupied about twelve years.*

	Yrs.	Mths.
* 1854 to June 1857...	3	5
Work done in 1858...	0	3
1859 to 1863 ...	4	0
Winter 1865 to February 1870 ...	4	3
Total ...	11	11

Govt. orders, paras. 42, 28, 31.

Board's para. 48.

The results are shown below :

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
10,47,952	11,38,580	90,628	8·6	2,06,313

These figures come from the settlement report. According, however, to the revenue† reports of 1870-71 to 1873-74, the results stand as follows :

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
11,00,679	11,65,539 rising in 1871-72 to 11,72,862	72,183	6·5

The methods of assessment adopted by the different assessing officers were as follows :

G. O. paras. 13, 14, 16, 24—26.

Board's page 21.
Report, page 45.

(1.) In each of the six classes of soil (*i. e.*, three classes sub-divided into wet and dry), average rent-rates were framed upon (*a*) cash rents, (*b*) estimates of value

† NOTE.—There are differences between the figures of the district settlement reports and those of the revenue reports, or the settlement progress reports, as regards the *cost* of settlement, for every district. Both sets of figures are given. Those of the district settlement reports have been generally adopted, as being of an administrative, while the others are of a purely financial character, including, for instance, such charges as half the Collector's pay, where the Collector has been left temporarily in charge of the settlement.

of average produce, (*c*) rent-rolls, commuting rents in kind into cash. These assumed rent-rates gave a jama approximating most closely to the jama deducible from the rent-rolls (*c*). The incidence of the new assessments on the cultivated acre at settlement was Rs. 1-10-10. It was 52 per cent. on recorded rental, and 14½ per cent. on estimated value of gross outturn.

(2.) Classification of soils being discarded, circle average rent-rates were got by dividing the cash rents of the circle by the cash-paying area. Then an average village was selected as representative of the circle, and all other villages were graduated above or below it according to value. An addition was made for old and new fallow, valuing them respectively at one-third and two-thirds the rate on cultivation, the former, however, being assessed only where it exceeded one-tenth of the area actually under cultivation. The assessment arrived at by this system fell at Rs. 1-8-2 on the cultivated acre. It was 50 per cent. on estimated rental, and 14·4 per cent. on estimated value of gross outturn.

For the whole district the revenue incidence per cultivated acre was Rs. 1-8-10, against Rs. 1-9-6 in 1853. By the revenue report figures given above, it would be Rs. 1-9-8. It was 49·1 per cent. on the total rental of 1869-70, and 14·7 per cent. on the average estimated value of gross produce.

G. O., paras. 29—31.

Board's page 16.

Pages 45, 49. The estimate is the average of 1272 and 1273 F., but the percentage has been struck on the *new* assessments.

Previous settlements are shown as follows :

		Rs.
1804-05	...	... 1,77,371
1806-08	...	... 2,95,742
1809-11	...	... 4,76,805
1812-15	...	... 9,38,938
1816-20	...	... 10,60,068
1821-25	...	... 9,99,152
1825-33	...	... 9,53,046
1833	...	... 10,93,946

Board's page 11.

Up to 1812 the parganas composing the district were held by privileged tenure (*jaidad* and *muqarrari*). Comparison begins from 1812. Only 5,030 acres were irrigated by canals in 1838, against 72,515 acres so irrigated in 1872-73. The increase of revenue attributed to canals was Rs. 79,369. The settlement area irrigated from all sources was 27½ per cent. of the total cultivated area, omitting the Roorkee tahsil, where the percentage was only 4·04.

G. O., paras. 31, 34.

Board's pages 21, 8.

Board's page 17.

Settlement was made in most cases with the cultivating proprietors. In 1841 the cultivator was usually the zamindar himself, tenants getting only such lands as were beyond the zamindar's means. In 1867 rents were still to a great extent regulated by custom, *i. e.*, calculated at an advance of 25 or 50 per cent. on the allotment of the Government demand on the tenant's share, or often without any advance at all. Tenant and proprietor were hardly distinguishable, and the happiest relations prevailed between them, though the former was by right merely a tenant-at-will. This state of things, however, was already threatened by numerous alienations to urban money-lenders, who are harder landlords.

Page 138.

Appendix F.
Board's page 21.

In 1841 the proportion of the cultivated area in the hands of cultivating proprietors was nearly 61 per cent.; in 1867 it was less than 49 per cent. The areas were respectively 399,294 and 357,789 acres, shewing that 41,504 acres had passed from under proprietary cultivation.

Cultivation generally had increased 11·6 per cent.

Maxima and minima of rent-rates were —

		Maxima. Rs. As. P.	Minima. Rs. As. P.
Homestead	Wet ...	8 0 0	6 0 0
	Dry ...	6 0 0	3 8 0
Loam-clay	Wet ...	5 0 0	3 12 0
	Dry ...	3 6 0	2 4 0
Sand ...	Wet ...	2 4 0	.....
	Dry ...	2 2 0	1 8 0

The settlement is for 30 years, ending the 30th June 1890.

Revenue Reports.

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1873-74	11,72,777
1874-75	11,72,054
1875-76	11,69,190
1876-77	11,73,395
1877-78	11,55,136 (Balance due to drought.)

Revenue-roll of 1st October 1878, Rs. 11,74,161.

Admiuistration Report, 1878-79.

Present irrigation percentage ...	23 (More than two-thirds by canal.)	
Culturable waste ditto ...	33	
	Rs.	As. P.
Revenue incidence on cultivation ...	1	12 8

The cultivated area shewn in the settlement report apparently includes a large proportion of temporary fallow.

GORAKHPUR—BASTI.

Area ... ... 7,373 *sq. miles.*
Population ... ... 3,492,344.

MEASUREMENTS began before the mutiny, but had to be done over again, with the exception of one pargana, between October 1859 and May 1862. Assessments went on from November 1861 to March 1867. The date of completion of the record of rights is not stated, but the Board's report is dated the 2nd October 1871, or twelve years later than the resumption of operations after the mutiny. The settlement was effected by six assistants under the Collector, the bulk of the work, however, falling upon three only. The results are shown below:

G. O., paras. 1, 10, 11.

Board's para. 43.

G. O., para. 20.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
20,82,599	28,73,593	7,90,994	38	3,92,110*

* Rs. 5,22,238 by revenue report of 1870-71, page 79 B.

Former assessments are shewn as follows:

Board's para. 32.

	Rs.
1803 to 1805	6,81,293
1806 to 1808	6,71,070
1809 to 1812	7,18,027
1813 to 1839	8,56,021
1838 to 1859	20,82,599

Various methods were followed by the assessing officers:

(*a.*) The empiric method, based on personal knowledge, declared village assets, and the pargana estimates of expected increase of revenue, framed by the Senior Member of the Board* at a conference held in Gorakhpur in 1860. The assessments thus evolved fell at Rs. 1-4-1 on the cultivated acre.

G. O., para. 12.

* Mr. R. A. Reade.

(*b.*) The method of rent-rates got by personal enquiry from the village papers, and by examination of the putwari, qanungo, and other persons of the pargana, and applied with consideration of "the differences "existing in each individual vil- "lage." These rent-rates were Rs. 3, Rs. 2¼, and Rs. 2 on clay, loam, and sand respectively. But in fact the pargana assessment was based on Mr. Reade's estimate, and the rates were more or less framed to suit it. In the two parganas thus assessed, the revenue incidence on cultivation was Rs. 1-2-5 and Rs. 1-0-7 respectively.

Board's Appendix II.

G. O., para. 13.

G. O., para. 15.

(*c.*) The method of assessment by inquiry into the actual returns of each village, without average rent-rates, was followed in two parganas, with a resulting revenue incidence of Rs. 1-3-10 and Rs. 1-3-11.

Volume II., pp. 123, 125, 254.

(*d.*) The method of circle rent-rates on the three classes of soil, got by personal inquiry from cultivators in the fields, and by comparison of rates framed by the Deputy Collector, the tahsildar, and the qanungo, and applied with reference to village circumstances. Mr. Reade's estimates were also kept in view. This process gave the subjoined revenue-rates in the five parganas thus treated :

G. O., para. 16.

		Rs.	As.	P.
I.	... ...	1	14	3
II.	... ...	1	9	4
III.	... ...	1	8	1
IV.	... ...	1	8	1
V.	... ...	1	5	7

G. O., para. 17.

(*e.*) The method of framing a rough pargana jama from Mr. Reade's estimate, native estimates, and rent-rates paid in the homestead (*goind*), middle (*miana*), and outlying (*pallu*) lands, and thence working backwards and distributing the demand over the tappas—a process which "could proceed with comparative facility, for it was known "what amount of difference should "prevail between the rates of the "several tappas." Tappa rent-rates were accordingly framed on the culturable areas without distinction of soil or irrigation. The revenue incidence on cultivation was—

Volume II., para. 16.

		Rs.	As.	P.
I.	... ...	1	1	2
II.	... ...	1	1	9
III.	... ...	0	13	7
IV.	... ...	0	7	10

(*f.*) Finally, six parganas were assessed on the customary tappa rent-rates, whether uniform rates or soil-rates, as ascertained by personal inquiry and checked by the rent-rates in the village papers, and by the opinion of pargana officers. The revenue incidence came out as follows :

G. O., paras. 18, 19.

	Rs.	As.	P.		Rs.	As.	P.
I. ...	1	3	4	IV. ...	0	15	9
II. ...	1	1	6	V. ...	0	14	11
III. ...	0	15	6	VI. ...	0	4	1

These assessments were the least of all dependent upon Mr. Reade's pargana estimates.

For the whole district the revenue incidence per cultivated acre was Rs. 1-1-10. There are no statistics as to incidence on rental, but the Government demand was estimated in 1866 as 20 per cent. of the gross outturn. The former rate on cultivation was Rs. 1-1-3, and the increase of cultivation since last settlement had been 44·9 per cent.

G. O., para. 19. Board's para. 38.

Board's para. 19.

Waste lands covering 471,208 acres were reserved to the Government. Receipts from these lands are in addition to the land revenue shewn above.

Board's. para. 26.

Tenures are not shown, but the villages were "mostly held by co-parcenary "bodies." In parts of the district where existing tenures owed their origin to service, pensionary, or land-reclamation grants made by the Rajahs then supreme, the actual holders were confirmed as proprietors, to the exclusion of the grantor, who was left in the enjoyment of his personally-held villages. Cultivators had increased (with the increase of cultivation) no less than 64 per cent. since the last settlement.

Board's para. 40.

G. O., para. 18.
Board's para. 39.
Volume II., page 63.
Board's para. 40.

The percentage of proprietary cultivation in three parganas varied from 16 to 28. The culturable waste at settlement was 25 per cent. of the total culturable area. Of the cultivated area, 62·5 per cent. was irrigated.* The present settlement is for 30 years, beginning in 1859, and expires on the 30th June 1889.

Board's para. 18.

* At present (1878-79)—

	Per cent.
Gorakhpur	... 60 (nearly.)
Basti	... 70

G. O., para. 22.

Maximum and minimum rent-rates were as follows:

Mr. A. Colvin's Memorandum, Appendix V.

	Maxima. Rs. As. P.	Minima. Rs. As. P.
Loam (*dumat*) ...	4 0 0	1 0 0
Clay (*matyar*) ...	3 13 0	1 0 0
Sand (*bhur*) ...	2 4 0	0 12 0

Land revenue collections since settlement are shewn below:

Years.	Land Revenue Collections. Gorakhpur and Basti. Rs.	Rs.	Rs.
1873-74	... 16,01,863	+ 12,76,170	= 28,78,033
1874-75	... 16,71,632	+ 13,18,486	= 29,90,118
1875-76	... 16,77,829	+ 13,19,547	= 29,97,376
1876-77	... 16,79,893	+ 13,19,398	= 29,99,291
1877-78	... 16,83,370	+ 13,18,261	= 30,01,631

The increase of revenue is due principally to progressive assessments, and also, especially in Gorakhpur, to waste land grants where the term of exemption from revenue has expired. It has not enhanced the revenue incidence, which in 1878-79 was Re. 1-0-10 in Gorakhpur, and Rs. 1-2-0 in Basti.

Administration Report, 1878-79.

BULANDSHAHR (NOT REVIEWED).

Area ... 1,909 *sq. miles.*
Population ... 936,593.

Paras. 134, 135.

REVISION of settlement began in 1858, and was carried on by the Collector, with two Deputy Collectors (European and Native), till April 1860, and thenceforward for five years by an Assistant Settlement Officer and a Native Deputy Collector. It lasted about seven years altogether, and gave results as follow (1865):

Paras. 7, 133.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
11,32,727	12,96,263	1,63,536	14·4	2,72,022*

* Revenue report, 1871-72, page 109 A, and 1870-71, page 5 B. This includes completion of the records. The settlement report figures are only Rs. 2,18,770.

The above is the ultimate figure of the new assessment; it began at Rs. 12,59,233, rising to Rs. 12,75,070 in seven years, and to its full amount in seven years more. The ultimate incidence per cultivated acre was Rs. 1-10-1½.

Para. 10.

Tenures were—

	Mahals.
Zamindari	1,206
Pattidari	324
Bhayachara	373

Para. 17.

Proprietary cultivation was 20 per cent.

Para. 78.

The irrigation percentage was 43 per cent. The irrigated area had increased by 45 per cent. since last settlement, and cultivation by 14 per cent.

The assessments were made with less regard to natural than conventional soils (homestead and outer, rejecting the middle belt). An all-round rate was struck for each of these two classes, sub-divided into wet and dry. For the homestead lands the *zabti* rates (*i. e.*, rates paid for crops other than food-grains) on the village bigha were taken as a clue; for the outlying lands, existing money rents. In most parganas a distinction was made between uplands (*bângar*) and lowlands (*khâdir*), whether in the homestead or the outer circle. "Money rates were so "general that there was no necessity for "any extensive or wholesale appraisement. "The deduced average money rates were, "however, checked by other rates obtained "from the average produce, and with very "satisfactory results. The average rent-"rates of each pargana were ascertained "by careful inquiry, chiefly from existing "money rents." The demarcation of the

soil-circles was made in five parganas personally by the officer writing the report; as to the remainder of the district, nothing is said on this point.

G. O. on Mr. Daniell's report. Memorandum by Board on above.

In 1868 enquiry was made as to the adequacy of the assessments. They were reported as about four lakhs short of a moderate demand. The Board, however, recommended confirmation of the settlement for the full term of 30 years (ending 1890).

Mr. A. Colvin's Memorandum.

Maximum and minimum rent-rates were —

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Homestead	Wet ...	12	0	0	5	0	0
	Dry ...	7	0	0	2	8	0
Outlying ...	Wet ...	5	4	0	3	8	0
	Dry ...	2	8	0	1	12	0
Alluvial *(khadir)*	Wet ...	9	4	0	5	8	0
	Dry ...	3	12	0	2	8	0

Revenue Reports.

Territorial changes (in 1871) between Bulandshahr and Delhi and Gurgaon prevent comparison of subsequent financial statistics. The revenue demand from the present district of Bulandshahr on 1st October 1878 was Rs. 12,38,363.

Administration Report, 1878-79.

	Per cent.
Present irrigation percentage ...	41
Culturable waste ditto ...	29

	Rs.	As.	P.
Revenue incidence on cultivation ...	1	9	4

MUZAFFARNAGAR, TEN PARGANAS
(NOT REVIEWED).

Area (whole district) ... 1,654 *sq. miles.*
Population ... 690,082.

Board's para. 4.

SETTLEMENT operations began in April 1860 and ended in January 1867, having lasted six and three-quarter years. They were conducted by the Collector, with a European assistant and a Native Deputy Collector, and for the last three years with two Deputy Collectors only. In 1868 Sir W. Muir ordered the settlement of seven parganas to be revised. The report on these is not to hand. For the ten remaining parganas, the results were —

Board's paras. 33, 41.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
7,60,692	7,41,773	—18,919	2·5	2,45,400

Nothing is said about former settlements.

Board's paras. 14, 16.

The assessments were made by two officers on "similar but not precisely "identical" methods, described by the Board (whose Secretary at that time was one of those officers) as follows :

"The cash rents found existing for the "several classes of crops paying in cash "were applied ordinarily to the area in "each circle occupied by their respective "crops. To the area occupied by crops "paying in kind, estimates of the produce "were applied, with the value of the "landlord's rent expressed in money."

Recourse was also had to the old revenue rates, which were enhanced (in the parganas thus treated) in the proportion in which prices were believed to have risen. "Summary rates on irrigated and unirri-"gated land used by the settlement officers "at the last settlement were also used. "That settlement had worked well, the "old rates had been carefully made, and "in many instances were found extremely "useful."

Board's para. 22.
Appendix to Board's letter.

The parganas were sub-divided into numerous circles, and there were four soil classes (*i. e.*, manured soil, and three natural soils), with distinction of wet and dry; but the crop-rents appear to have been the main basis of assessment.

Board's para. 33.

Board's paras. 34—40.

Board's para. 41.

In five parganas the revenue incidence was Rs. 2-2-3, against Rs 2-4-3 initial, and Rs. 2-1-10 expiring incidence of last settlement. In the five other parganas, which had suffered from rebellion, drought, exodus of cultivators, and sickness, the incidence was Rs. 1-12-6, against Rs. 1-14-2 at the beginning, and Rs. 1-14-8 at the end, of the last settlement.

There are no rent or produce statistics.

Tenures were as follows:

From pargana appendices.

	Mahals.
Zamindari	84
Pattidari	161
Bhayachara	380

Sixty per cent. of the cultivated area was irrigated. The culturable waste was nearly 22 per cent. of the assessable area. Board's paras. 10, 11.

In the five distressed parganas the revenue was lowered 8 per cent., and in the other five it was raised 1·15 per cent. The Board recommended sanction from 1861 to 1891; the settlement had then (1873) been from eight to eleven years in operation, and was considered "very fair "and equitable." Board's paras. 32, 41. Board's para. 42.

Rent-rates, as framed for the four soil-classes above-mentioned, shew the following maxima and minima. They are illustrative, though not the principal data of assessment: Mr. A. Colvin's Memorandum, Appendix V.

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Manured land ...	Wet ...	9	7	4	2	15	4
	Dry ...	6	6	0	2	4	0
Loam	Wet ...	6	12	0	2	6	0
	Dry ...	5	2	0	1	11	2
Clay	Wet ...	7	8	0	1	13	3
	Dry ...	5	4	0	1	9	4
Sand	Wet ...	3	15	6	1	7	11
	Dry ...	2	11	1	1	0	0

The result of the revision of settlement made in 1860-67 was to change the revenue demand of the entire district by Rs. 698 only, *i. e.*, from Rs. 11,19,825 to Rs. 11,19,127, at a cost of Rs. 2,45,400. The revision of this revised settlement in seven parganas, begun in 1870, was finished in January 1875. It raised the revenue demand of the whole district to Rs. 12,24,191, *i. e.*, by Rs. 1,05,064. Comparison of course should be made with the seven revised parganas only. Changes in the district revenue-roll prevent the figures from tallying exactly with those given above for the ten parganas and the whole district; they are Rs. 3,59,143 for the seven parganas under the 1862-64 settlement, and Rs. 4,81,418 by the second revision. The cost of the second revision was Rs. 1,69,253. Board's Revenue Reports.

Thus the settlement of the entire district, from first to last, cost Rs. 4,14,653, and raised the revenue demand by Rs. 1,04,366.

Subsequent reductions on accountof diluvion and other causes brought the revenue-roll down to Rs. 12,22,725 on 1st October 1878.

The irrigation percentage at present is 30. More than three-fourths of the irrigation is from canals. The culturable waste percentage is 25. The revenue incidence on cultivation is Re. 1-14-0.

MEERUT (NOT REVIEWED).

Area ... 2,354 *sq. miles.*
Population ... 1,217,104.

Board's paras. 2, 110.

MEERUT was settled by the Collector and an assistant between 1865 and 1870, with the following results :

	Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
	Rs.	Rs.	Rs.		Rs.
* Revenue report, 1871-72, page 109A.	18,26,141	21,84,675	3,58,534	19·6	3,86,882*

The last settlement, in 1837, had been made at a considerable increase. There had been five settlements since annexation (the fifth was in 1825) for part of the district ; the rest was Begam Sombre's estate, and lapsed at her death.

Board's paras. 78, 106, 108, 108.

The assessments were mainly founded upon minute local inquiries. Villages were grouped into classes, and average all-round rent-rates (called the prevailing rates) for wet and dry lands were adopted for each class. The rough assessments were tested by average wet and dry soil-rates (for four classes of soil), got by an estimate of average outturn and average harvest price on grain-paying lands, and by collating recorded money rents of cash-paying lands. But these calculations were mainly prepared by native agency, and were not treated as the main basis of assessment. The all-round rates were the settlement officer's "own revenue "class-rates on cultivation, upon which," he writes, "my chief dependence lies, "using all others as checks and tests." They were sufficiently rude, *e. g.*, one rupee and 8 annas per village bigha on wet and dry lands, respectively, in one pargana : and the classification of villages was not always followed out. The Board, however, were satisfied of the "soundness of the "settlement officer's judgment in applying "his information to the practical assess-"ment of the Government demand."

Board's para. 110.

The result was a revenue incidence of Rs. 2-1-5 per cultivated acre, against Rs. 2-1-10 at the beginning, and Rs. 1-11-0 at the end of the old settlement.

Board's page 22.

The irrigation and culturable waste percentages were 55·3 (20 per cent. canals) and 19 respectively.

Cultivation had increased by 22, and irrigation by 27, per cent., the latter on account of canals. The assessment was unquestionably moderate, as the rental increase due to these rates of progress alone was 9½ lakhs, without reckoning the rise in prices. Board's para. 96.

Though still finally unconfirmed, the settlement had apparently been running from four to seven years when it was recommended for sanction in 1874. At this rate, it would expire in 1897—1900.

The maxima and minima of rent-rates were as follow: Mr. A. Colvin's Memorandum.

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Loam ...	Wet	... 6 5 9	2 7 5
	Dry	... 3 13 6	1 13 4
Clay ...	Wet	... 7 9 3	2 12 5
	Dry	... 5 6 1	1 11 0
Sand ...	Wet	... 5 6 2	1 10 9
	Dry	... 3 11 6	1 1 7

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1872-73	21,72,112
1873-74	21,75,868
1874-75	21,76,651
1875-76	21,79,821
1876-77	21,80,129
1877-78	21,72,090

Revenue-roll of 1st October 1878, Rs. 21,83,928.

	Per cent.	
Irrigation percentage, 1878-79	... 55 (Nearly half from canals.)	Administration Report, 1878-79.
Culturable waste ditto	... 12	
	Rs. As. P.	
Revenue incidence on cultivation ...	2 1 4	

BUDAON.

Area ... ... 1,993 *sq. miles.*
Population ... 935,671.

Report, paras. 47—52.

SETTLEMENT operations began in May 1864. Measurements were completed by March 1867; the last assessments were made in February 1870; and settlement work was wound up at the end of 1872,* having lasted more than eight and a half years. The Collector was in charge, aided by an Assistant Settlement Officer. The results are shewn below:

* According to dates of appendices.

G. O., para. 3.

Para. 237.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,28,478	10,29,418	1,00,940	10·9	4,47,795*

* Rs. 4,58,719 by revenue report, 1871-72, page 110 A, and settlement progress report, 1872-73, page 60.

Paras. 41—46.

Previous settlements were as follows:

Year.	Demand. Rs.
1803-05	7,40,461
1806-08	7,09,913
1809-11	7,78,650

These three settlements were made on the simple principle of leasing to the highest bidder, and paying the tahsildars a commission on collections in lieu of salary. The first and third broke down completely, and the result of all three settlements was the disorganization of the district.

1812-1832 Rs. 9,13,195.

This was made for five years only, but extended by successive quinquennial proclamations to twenty years. It was based on the Akbar settlement rates in the possession of the qanungos. Some parganas managed very well on these rates; in others the settlement broke down.

The last assessment was that made under Regulation IX. of 1833.

Rent-rates were got by taking the prevalent village rate for each of the three classes of soil (clay, loam, and sand), applying that rate to the village area of each class, totalling up the rentals thus obtained in all the villages of the circle, and dividing the sum by the sum of the soil areas similarly totalled. The circle rates thus obtained were different for irrigated and unirrigated, and for homestead (*gauhan*) and outlying lands of each class of soil. The assessing officer also relied much upon his personal knowledge, which was exceptionally

G. O., para. 13.

Paras. 101, 102.

Page 4 A.

extensive. As finally fixed, the assessments fell at Rs. 1-8-0 per acre over one-fourth of the cultivated area of the district, at Rs. 1-3-9 over four-thirteenths, and at Rs. 1-2-0 over the remainder (somewhat less than one-half). For the whole district the incidence was Rs. 1-3-9. The percentage on rentals (corrected for sîr) was only 45·6, and on estimated value of gross outturn 14·8. On the rentals of 1871-72, however, as verified by the qanungos, the revenue percentage was 49·1.

Board's paras. 6, 15.

Board's para. 13.

Page 114 C.

Page 111 C.

Twenty-four per cent. of the total cultivated area was irrigated.

Only 16·7 per cent. of the cultivated area was tilled by proprietors, but a considerable portion of the old occupancy tenants were clansmen or relatives of the proprietors holding at privileged rates; and the proprietary communities generally were large.

Page 109 C.

Board's para. 17.

The increase of cultivation had been 27 per cent. Since settlement, rents have largely risen, and the district has been opened up by the railway (running across a corner of the district, and passing within nineteen miles of Budaon itself, with which it is now connected by a good metalled road). Even at the time, the settlement was regarded as exceptionally light. It is for 30 years, ending 1896-97.

Board's para. 16.
Commissioner's paras. 26, 27.
G. O., para. 14.

Maximum and minimum rent-rates were —

Mr. A. Colvin's Memorandum.

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Homestead	Wet	5	0	0	3	0	0
	Dry	5	0	0	2	2	7
Loam	Wet	4	0	0	2	0	0
	Dry	4	0	0	1	8	0
Clay	Wet	4	8	0	1	8	0
	Dry	4	8	0	1	8	0
Sand	Wet	3	0	0	1	8	0
	Dry	3	0	0	1	0	0

The coincidence of the wet and dry maxima for all soils is remarkable.

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1871-72	10,27,763
1872-73	10,27,475
1873-74	10,26,182
1874-75	10,26,473
1875-76	10,29,064
1876-77	10,28,835
1877-78	10,31,166

The irrigation percentage in 1878-79 is shewn as 21 only, and the culturable waste percentage as 24. The revenue incidence on cultivation is Rs. 1-2-11.

Administration Report.

ETAH (NOT REVIEWED).

Area	...	1,512 *sq. miles.*
Population	...	702,017.

Board's paras. 2—7.

FOR the first five years settlement operations were carried on by a Deputy Collector under the District Officer, and subsequently by a Settlement Officer with a Deputy Collector. The work lasted from October 1863 till 1873, or a little less than ten years, with results as subjoined:

Board's paras. 40, 42.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
7,32,461	9,39,220	2,06,759	28¼	3,94,527*

* Rs. 4,06,055 by revenue and settlement progress reports, 1871-72 to 1874-75.

There are no former settlements with which comparison can be made. The district was made out of fragments of four districts, assessed by different officers in 1835-1837.

Board's para. 9.

There were a number of assessing officers, each following his own principles.

Paras. 35 to 47. Board's para. 13.

(1.) Three *tarai* parganas were assessed on rent-rates believed to have been formed "in the usual way, by constant enquiry "and comparison," and relating to *tarai*, *gauhan*, and three classes of other land, irrespective of irrigation. The revenue incidence was Rs. 1-5-7, Rs. 1-11-5, and Rs. 1-9-2 per cultivated acre.

(2.) Two upland parganas were assessed on the same principles, but with distinction between wet and dry in lands not *gauhan*; the incidence was Rs. 1-6-1 and Rs. 1-5-5. In a third pargana, similarly assessed, the incidence was Rs. 2-3-9.

(3.) One upland pargana was assessed by another officer, who "classified the "villages of the pargana in three circles, "and assigned in each different assumed "average rates to the different descriptions "of natural soil, distinguishing between "irrigated and unirrigated." The incidence here was Rs. 1-5-2. In three other parganas, similarly assessed by the same officer, the incidence was Rs. 1-1-5, Re. 0-15-6, and Re. 0-13-2. The rates were without distinction of irrigation, and were "determined on after comparing the results "of separate computation by average pro-"duce rates and by prevalent village cash "rates."

(4.) The last four parganas of the district were assessed on assumed rental, arrived at as follows:

"Classification was first made of the "various soils, with distinction of irrigated "and unirrigated; and within each soil the "rates were graduated so as to represent "the principal variations in rental value of "such soils commonly met with in the "pargana, the general averages of these "rates for each class of soil throughout the

"pargana being used for purposes of com-
"parison;" and then assessment was made with a view to future rise of rents. The revenue incidence in these four parganas was Rs. 1-6-8, Rs. 1-5-8, Rs. 1-5-1, and Rs. 2-1-11.

The average incidence for the whole district was Rs. 1-8-3. On the 1282 F. (1864-65) recorded rental it was 46 per cent. — Appendix I. Board's para. 41.

Tenures are shown as follows: — Appendix VIII.

		Mahals.
Zamindari	... ...	978
Pattidari	Perfect	162
	Imperfect	356
Bhayachara	... ...	3
		1,499

The percentage of proprietary cultivation was only 16. — Appendix IX.

The irrigation percentage was 36·4. — Appendix I.

In one pargana, assessments have been revised and reduced since settlement. For the remainder, the Board recommended 30 years' sanction from July 1867, 1869, 1870, 1871, 1872, and 1873. — Board's paras. 43, 44.

Cultivation had increased by 12 to 84 per cent. in the various parganas; for the whole district the percentage of increase was about 30.

Rent-rate maxima and minima were as follows: — Mr. A. Colvin's Memorandum. Board's paras. 13, 27, 33, 35, 38.

		Maxima. Rs.	As.	P.	Minima. Rs.	As.	P.
Homestead	...	11	13	0	5	0	0
Loam	...	5	4	0	1	7	7
Clay	...	4	0	0	1	15	8
Sand	...	3	15	0	0	12	9
Alluvial (*tarai*)	Loam	5	4	0	3	15	0
	Clay	7	0	0	3	0	0
	Sand	4	0	0	1	7	3

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1874-75 ...	... 9,03,201
1875-76 ...	... 8,24,582
1876-77 ...	... 9,19,724 +42,187 arrears.
1877-78 ...	... 8,67,699 +14,602 arrears.

The short collections are principally due to over assessment in one pargana, involving suspension of the demand, pending orders as to reduction of revenue. These orders were given in September 1877, and the demand now stands at Rs. 9,22,245, *i. e.*, the gain by revision of settlement has been 26 per cent. on the old revenue, and the incidence on settlement cultivation is Rs. 1-7-10 per acre.

The irrigation percentage of 1878-79 is shewn as 45, about one-sixth of which is due to canals. The cultivated area of that year appears as 2 per cent. less than the settlement area, perhaps because the latter includes fallow.

BIJNAUR (NOT REVIEWED BY BOARD).

Area ... 1,869 *sq., miles.*

Population ... 1,37,152.

Page 51.

SETTLEMENT work began in January 1864, and lasted till the end of July 1874, or ten and a half years. For the first four and three-quarter years the Collector was in charge, with an Assistant Settlement Officer and two Deputy Collectors (one for two and a quarter years); thenceforward a Settlement Officer and two Deputy Collectors. The results were —

Pages 99, 254.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
11,83,585	11,83,029	—556	...	5,39,091*

* Rs. 5,52,059 by revenue and settlement progress reports, 1871-72 to 1873-74.

Previous settlements were —

		Rs.
1802-04	...	... 9,14,931
1805-08	...	... 9,21,292
1809-12	...	... 9,70,464
1813-17	...	... 11,02,808

This broke down, after ruining many of the large malguzars.

		Rs.
1818-22	...	... 10,69,138
1823-27	...	... 11,33,351
1828-32	...	... 11,34,436
1833	...	... 11,35,286

There was a partial break-down under this also.

The first regular settlement was made in 1834-39, at an initial demand of Rs. 11,20,900, rising to Rs. 11,83,585.

Pages 103, 105, 138, 168, 112, 192—196.

The present assessments were made by three officers, two of whom reduced the revenue demand by Rs. 13,494 and Rs. 53,385 respectively, while the third increased it by Rs. 66,323. Had the assessments been all made by this last officer, the result for the district would apparently have been a revenue increase of about Rs. 1,40,000. All three officers divided the parganas into circles, and

used the same classes of soil, without (as a rule) distinction of irrigation. Rents are mostly in kind.

(1.) In the parts assessed by the Collector, rent-rates were got (*a*) by deducing a general rent-rate from all lands leased in the pargana on a money rent between 1857-58 and 1863-64, omitting 1860-61; (*b*) by applying certain estimated crop produce-rates to the area of each description of soil, turning the gross produce of each soil into money, at the average prices of ten years, dividing the result between the landlord and the tenant at the rate of $\frac{2}{5}$ths. and $\frac{3}{5}$ths., and thus deducing soil-rates and a general rate.

(2.) The second assessing officer elaborated his rent-rates by applying estimates of produce of each crop to the area of that crop, by valuing the zamindar's share ($\frac{1}{4}$ or $\frac{17}{40}$ths., according to circumstances) at average prices of twenty-one years, less $7\frac{1}{2}$ per cent., and then deducing soil-rates by dividing the gross value of the rents by the area of each soil. The results were checked by tables of money leases for five years. In one pargana the process was reversed, *i. e.*, a general rent-rate was first got from the tables of leases, and then distributed over the soils, and checked by produce estimates.

These assessments were all made before 1858.

(3.) The third assessing officer, who regarded them all as much too low, began by working out general circle-rates from (*a*) tables of leases; (*b*) crop and soil tables prepared with reference to the various rates of cash and grain rents prevalent in each circle; and (*c*) the recorded rentals *plus* one-seventh for understating. These 'crop and soil 'tables' were in fact crop-rates for the general soil of the whole circle (upland or lowland), and were got by deducting 10 to 25 per cent. from the cash rates on sugar and cotton, and by converting the grain rents into money at fixed produce-rates and prices (average of ten years), the zamindar's share averaging

$\frac{17}{40}$ths. They were the assessing officer's "main and primary guide." The rentals resulting from these various modes of calculation were compared with those got by applying the general circle-rates, and then assessment was made with regard to qualifying circumstances.

Paras. 107, 113.

The incidence of the whole revenue demand was Rs. 1-15-2 on the cultivated area of 1868, and 42·6 per cent. on the calculated rental of the district.

Tenures were —

		Number of mahals.
Zamindari	One owner	... 1,267
	Several	... 1,222
Pattidari	Perfect	... 79
	Imperfect	... 298
Bhayachara	...	... 273

There were sub-proprietors in some of the large zamindaris.

The percentage of proprietary cultivation was 15·1, and of sub-proprietary cultivation 2·3.

The irrigation percentage is shewn as 5·8 only, but is believed to be understated. About one-third of it is shewn in 1878-79 as due to canals.

Rents were estimated to have risen 40 per cent., and cultivation increased 29 per cent., during the past settlement.

Rent-rate Reports.

Maximum and minimum rent-rates were as follows :

	Maxima.			Minima.		
	Rs.	As.	P.	Rs.	As.	P.
Manured land ...	10	9	8	5	14	0
Loam (*siwai*) ...	5	8	0	2	0	0
Clay ...	5	3	6	1	5	0
Sand ...	2	10	0	1	6	2

The revenue-roll of 1st October 1878 was Rs. 11,83,452.

Administration Report.

The statistics for 1878-79 are the same as those in the settlement report, dated August 1874.

BAREILLY, EXCLUSIVE OF PILIBHIT
(NOT REVIEWED BY BOARD).

Area (with Pilibhit)... 2,993 *sq. miles.*

Population (ditto) ... 1,507,139.

SETTLEMENT operations lasted from November 1865 to October 1872, or seven years. They were conducted by a Settlement Officer, with an assistant (for last three and a half years), and two Deputy Collectors (one for three years only). The results were— Pages 179, 188, 189.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs	Rs.		Rs.
13,78,320	16,62,670	2,84,350	20·6	3,93,428*

* Rs. 4,64,467 for Bareilly and Pilibhit together by revenue and settlement progress reports, 1871-72 to 1874-75.

Former settlements are shewn below: Page 189.

	Rs.
1803-05 ...	... 9,06,897
1806-08 ...	... 9,27,118
1809-12 ...	... 13,08,213
1813-17 ...	... 16,26,438
1818-22 ...	... 16,25,873
1823-36 ...	... 16,22,600

These last three settlements were too high, and ended in a break-down.

	Rs.
1837 ...	... 14,87,236

Subsequently, among other changes, villages paying Rs. 1,19,158 were granted to the Nawab of Rampur for loyalty in the mutiny.

The demarcation of soils was made by native agency, and corrected by the assessing officer. The parganas were divided into assessment circles. Then the statistical muharrirs worked out the average rents on soils. For grain-paying villages, crop-rates were adopted, based on produce-averages deduced from a vast number of experiments. Deducting one-sixth, the remainder was divided between zamindar and tenant according to custom, and the grain rent was commuted to money at the average prices of 20 years, omitting famine years. This gave average money-rates for each crop. Applying these rates to the crop-areas of each soil, and dividing the total by the total soil-areas, the result was soil rent-rates in money. Circumstances taken into consideration in assessing on these data were— Pages 155—157.

(1) caste of cultivators,
(2) absence of waste,
(3) improvement of land at zamindar's expense,
(4) liability to damage from floods or wild animals,
(5) non-residence of zamindar,

(6) former profits,
(7) number of proprietors,
(8) unhealthiness, and
(9) remoteness from market.

Finally, the future rise of rents was assumed at 16·5 per cent.

Page 127. The soils were all natural,—sand, clay, and loam, distinguished into wet and dry. The crop-rates, which were taken as a minimum, probably helped to make up for the want of distinction between manured and unmanured land.

The general result was a revenue incidence of Rs. 1-15-1 per cultivated acre. Over three-tenths of the district it was as low as Rs. 1-11-6, and over one-fourth as high as Rs. 2-3-1. On recorded rental, corrected for sîr, it was 52·4 per cent.; as for incidence on gross outturn, the zamindar's share varies from one-fifth to one-half, and the Government share would thus vary from $\frac{1}{12}$th to $\frac{5}{24}$ths., after deduction of one-sixth as above.

Page 125.

Page 118.

Tenures are—

		Number of mahals.
Zamindari ...	...	2,611
Pattidari ... Perfect	...	323
Pattidari ... Imperfect	...	318

The percentage of proprietary cultivation is only 5·9.

The irrigation and culturable waste percentages are 39·9 and 13·5.

Cultivation had increased 27·47, and irrigation 4·8, per cent. since last settlement. One-third of the wet area is irrigated by canals. Prices were estimated to have risen 30·5 per cent.

Mr. A. Colvin's Memorandum.

Maxima and minima of rent-rates were as follow:

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Loam I. ... Wet	...	6	6	0	3	4	1
Loam I. ... Dry	...	4	6	0	2	8	0
Do. II. ... Wet	...	4	3	0	2	1	1
Do. II. ... Dry	...	3	3	0	1	12	0
Clay ... Wet	...	4	12	0	2	3	0
Clay ... Dry	...	3	6	0	2	0	0
Sand ... Wet	...	4	0	0	1	8	0
Sand ... Dry	...	2	12	0	1	8	0
Alluvial (*khadir*) ...		5	12	0	2	6	0

The present revenue demand from the whole district of Bareilly, including Pilibhit, is Rs. 20,50,879.

The last assessments took effect from 1872, and should therefore last, if confirmed, till 1902.

The irrigation percentage for the whole district (with Pilibhit) in 1878-79 is shewn as 11·5, one-fourth of which is due to canals, and the culturable waste percentage as 23. The revenue incidence on cultivation is Rs. 1-11-6.

Administration Report.

PILIBHIT SUB-DIVISION (NOT REVIEWED BY GOVERNMENT).

SETTLEMENT operations were conducted by the district staff, with a special Deputy Collector, and occupied six and a half years (October 1865—March 1872). The results were— Report, paras. 1, 126. Pargana reports. Appendix I.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,12,860	4,02,715	87,855	27·9	71,942

There were five previous settlements. The fifth was at a considerable increase. Reclamation has long been going on in Pilibhit. Pargana statements.

The mode of assessment varied in the three parganas.

(1.) In one pargana the custom was to charge rent by the crop, without reference to soil or irrigation. By collation of these crop-rates, for three classes of villages in each of the five circles into which the pargana was divided, a general rent-rate per village bigha was evolved for each circle, and the acreage rate was then computed from it. Pages 92—94.

(2.) For the two other parganas, the mode of getting both soil-rates and crop-rates is thus described: "With free local "enquiry, and continually testing my own "opinion by that of others, an opinion of "the value of each soil in each circle was "gradually formed. At the same time, and "in the same way, I separately formed "my rates on each crop." The result by both rates came out nearly the same. There were four circles in these two parganas. Page 113.

The jamas thus got were compared according to their incidence on village cultivated area, and discrepancies were reconciled or accounted for in the subsequent inspection. The revised jamas were then again divided by the cultivated areas, and the incidences again compared. Where differences were easily explainable by the inspection notes, they were accepted; otherwise the village was re-visited. "Finally, when satisfied of the correctness "of the demand on the cultivated area, the "fallow and miscellaneous items were taken "into consideration. After this, the par-"gana was ready for the assessment to be "declared." Para. 125.

Para. 128. The incidence per cultivated acre on the whole sub-division was Rs. 1-8-9.

Para. 75. Tenures were—

	Mahals.
Zamindari	907
Pattidari	23

Para. 97. Proprietary cultivation was only 3·3 per cent.

The culturable waste percentage at survey was 45.

Para. 23. The irrigation percentages were 7¾, 19, and 38 per cent. in the three parganas.

Para. 115. Cultivation had increased 33 per cent. since last settlement.

Complaints of over-assessment were inquired into and pronounced unfounded (in 1876). The settlement has apparently been running since 1870.

Revenue Report, 1874-75, page 19. In 1873-74 the revenue demand in one pargana was reduced by Rs. 16,734.

Mr. A. Colvin's Memorandum. Rent-rate maxima and minima were as subjoined :

		Maxims. Rs. As. P.	Minima. Rs. As. P.
Loam	Wet ...	5 8 0	3 0 0
	Dry ...	4 0 0	1 12 0
Clay	Wet ...	5 0 0	2 8 0
	Dry ...	3 12 0	1 7 4
Sand	Wet ...	4 0 0	2 0 0
	Dry ...	3 0 0	1 0 0

SHAHJAHANPUR (NOT REVIEWED).

Area ... 1,744 *sq. miles.*
Population ... 949,471.

SETTLEMENT operations lasted from 1867-68 to the end of 1874, or about seven years. They were conducted by a Settlement Officer, with a European assistant, and a Deputy Collector. The result is shown below :

Board's para. 2.

Report, para. 132.

Para. 97. Board's para. 3.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,75,278	11,75,040 rising in 8 years to 11,84,425	2,09,152	21·4	5,86,500*

* Rs. 6,21,154 by revenue and settlement progress reports, 1871-72 to 1874-75.

There had been nine previous settlements. Exact figures are not forthcoming for the whole of the district previous to the eighth settlement; but the seventh settlement was made at a considerable enhancement, and the eighth, at Rs. 10,22,324, showed a still greater increase. The ninth settlement was that of 1838-39, at a reduction of 12 per cent., the district having been generally over-assessed.

Paras. 54, 55, 56.

Board's para. 6.

Circle rent-rates were worked out on soils, without distinction of wet or dry, on the rule that good soils were either capable of irrigation, or did not want it ; while inferior soils were incapable of irrigation. These rates were based on the rents actually paid. "All low and "suspicious rates are eliminated, as well as "all specially favourable rates for zamin-"dars' sîr, or for relations and dependants, "and only genuine cultivators' rates are "taken, and averages struck from large "areas of all kinds of soil in all directions "of each circle ; and when, for the reasons "assigned, it is demonstrable that in "any particular circle or pargana the "existing rates are low and insufficient, as "compared with similar lands in the vici-"nity, and a rise is not only reasonably to "be expected, but certain, the assumed "rates are put at such amount above the "existing average rates as is estimated will "correct this inadequacy and meet this "certain rise. But no theoretical correct-"ness or proper proportion between rents "and prices, or value of produce, has been "aimed at."

Para. 77.

Board's para. 16.

The rental resulting from the application of these rates was compared with the rental arrived at by corrections for sîr, &c., and with the "gross potential assets," *i. e.*, the full limit to which the

Para. 86.

rental would rise immediately (within two or three years) after the declaration of the new assessments. On these gross potential assets, as modified by circumstances (chiefly (1) number of proprietors, (2) caste, (3) liability to floods or damage from wild animals, (4) former profits after paying revenue), the 50 per cent. jama was based.

Para. 91.

The incidence was as shewn below:

	Per cultivated acre.
	Rs. As. P.
New assessments ...	1 9 7
Expiring incidence of old ...	1 11 10
Initial ditto ditto ...	1 5 1

By parganas, the new incidence varied from Rs. 2 to Re. 0-15-7. Throughout the greater part of the district it was very uniform, ranging only between Rs. 1-10-7 and Rs. 1-14-4.

No estimate has been made of the value of gross outturn. The estimated actual assets fell short of double the revenue in all the parganas, by proportions varying from 7 to 26½ per cent., *i. e.*, the revenue incidence on actual assets at settlement varied from 53·5 to 63·25 per cent.

Para. 86.

Tenures were as follows:

Para. 47.

	No. of mahals.
Zamindari	2,191
Pattidari	872

The percentage of proprietary cultivation ranged by parganas from 6·25 to 25·63, and was 13·42 for the whole district.

Para. 50.

The irrigation percentage was 40. The percentage of culturable waste was 21·6.

Para. 73.

Rents were almost all in cash. In one pargana, where the enhancement was 78 per cent., the new jamas were progressive. Cultivation had increased 31 per cent., and prices had risen 73 per cent., within 20 years, but the rent-rates had not increased, and the enhancements subsequent to the new assessments were not in the shape of any increase to the old rates paid for good land. The Board believed that rents would rise, during the currency of the settlement, far above the assumed average rent-rates used in assessment.

Board's paras. 11—14.

Board's para. 16.

If confirmed, the new settlement will run for 30 years from the 1st July of 1870, 1871, 1872, and 1873.

Para. 70.

Mr. A. Colvin's Memorandum.

Maxima and minima of assumed rent-rates were as follows :

	Rs.	As.	P.		Rs.	As.	P.
Homestead ...	8	0	0	to	3	12	0
Loam I. ...	5	0	0	„	2	4	0
Do. II. ...	3	12	0	„	1	8	0
Clay ...	4	0	0	„	1	12	0
Sand ...	2	8	0	„	1	2	0
Hard clay* ...	2	8	0	„	1	2	0

* *Dhánkar* or *Khápat*, *i. e.*, a hard clay found in natural drainage and flood lines.

Land revenue collections since settlement are shewn below :

Years.	Land revenue collections. Rs.
1873-74 ...	... 11,69,738 (Balance due to land acquisitions.)
1874-75 ...	... 11,15,879 (Balance due to hail.)
1875-76 ...	... 11,64,228 (Balance due to diluvion and revenue-free assignments.)
1876-77 ...	... 11,56,051 (Do., and also drought.)
1877-78 ...	... 10,94,681 (Balance due to drought.)

The revenue demand, owing to the operation of the progressive assessments, became Rs. 11,81,654 on 1st October 1878.

Administration Report.

The revenue incidence on cultivation appears as Rs. 1-13-10 in 1878-79. Apparently the settlement area of cultivation included temporary fallow.

FARRUKHABAD (NOT REVIEWED).

Area ... 1,719 *sq. miles.*
Population ... 916,661.

Board's para. 2.
Report, page 2.

SETTLEMENT operations began in February 1863, and were closed in April 1875, having lasted twelve years. They were conducted by a Settlement Officer, with two Deputy Collectors (one for 3¾ years only) and with a European assistant for nearly five years. The results were —

Board's paras. 21, 24.
Report, para. 81.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
11,25,346	12,46,470	1,21,124	10·8	5,09,144*

* Rs. 5,22,031 by revenue and settlement progress reports, 1871-72 to 1874-75.

Previous settlements are shewn as follows :

	Rs.
1803-05	10,83,836
1806-08	11,05,463
1809-12	11,64,124
1813-36	13,32,677
1837 (after the famine) ...	12,92,717
Revision 1844	11,56,612

Board's para. 17.

The system of assessment was that introduced in this district by Mr. C. A. Elliott, and subsequently adopted* by all settlement officers throughout the province. "The basis of it is the demarcation of the "different *hârs* or tracts of a village by the "settlement officer himself; the ascertain- "ment of the rents paid in such *hârs*, the "comparison of all similar tracts and their "rents, and the ascertainment of the real, "as opposed to the arithmetical, mean rate "paid for each class of soil. In the assess- "ment, the soil-rates so obtained were not "blindly followed. The estimate framed "by the inspecting officer as to the value "of the soil was allowed to modify the deci- "sion. Variations due to this cause are "explained in the assessment remarks." The classes of soil here alluded to are homestead and outlying, the latter subdivided according to natural varieties of soil; and in both classes wet lands are distinguished from dry, but not in the *tarai* or lowland tracts.

* See Etawah, Mainpuri, Cawnpore, Fathpur, Muttra. The system has been developed with scientific precision in the later settled districts.

Page 49.

Page 68.

The revenue incidence was Rs. 1-14-7 per cultivated acre, as compared with Rs. 2-2-8 at the beginning, and Rs. 1-11-9 at the end, of the revised settlement of 1845. In one pargana it was as high as Rs. 2-12-3; in three parganas it was Rs. 2-6-0; while in two parganas it was as low as Rs. 1-6-0; the rest of the district not varying greatly from the general average.

The revenue incidence on assets before enhancement of rents was 57 per cent., and after enhancement 51 per cent. There are no produce statistics. Page 65.

The number of mahals under each kind of tenure is not shewn. The percentage of proprietary cultivation varied from 5 to 28 per cent., the average being 16 per cent. Page 27.

The irrigation percentage was 57 (7 per cent., canals). The percentage of culturable waste was 15 only. Page 24.

Irrigation had increased 20 per cent., and cultivation 12 per cent., during the past settlement. Prices were estimated to have risen 30 per cent. The Board considered the new settlement moderate, perhaps too lenient in some parganas. Page 24. Board's para. 9. Board's para. 22.

If confirmed, the settlement will run for 30 years from dates between November 1869 and December 1873. Board's para. 23.

The maxima and minima of assumed rent-rates were as follow : Rent-rate reports. Mr. A. Colvin's Memorandum divides soil-classes differently, without distinction of irrigation.

		Maxima. Rs.	As.	P.	Minima. Rs.	As.	P.
Homestead	Wet ...	10	8	0	6	2	0
	Dry ...	5	4	0	2	10	0
Loam ...	Wet ...	7	0	0	3	15	0
	Dry ...	4	6	0	1	12	0
Clay ...	Wet ...	6	8	0	...		
	Dry ...	4	13	0	...		
Sand ...	Wet ...	4	6	0	2	10	0
	Dry ...	3	8	0	1	5	0
Alluvial (*tarai*)	...	7	14	0	1	5	0

Land revenue collections since settlement are shewn below : Revenue Reports.

Years.	Land revenue collections. Rs.	
1872-73	12,39,439	
1873-74	12,37,582	
1874-75	12,22,205 (Balance due to hail.)	
1875-76	12,26,743	+3,579 arrears.
1876-77	12,14,737	+12,891 arrears.
1877-78	12,17,159 (Balance due to drought.)	

From 1873-74 the revenue demand was reduced on account of diluvion, and now (1st October 1878) stands at Rs. 12,32,874, with an incidence of Rs. 1-14-0 on the cultivated acre.

MAINPURI (NOT REVIEWED).

Area ... 1,697 *sq. miles.*
Population ... 765,783.

Page 53.

SETTLEMENT operations lasted from December 1866 till March 1874, or 7¼ years. For the first 14 months they were conducted by the Collector, with an Assistant Settlement Officer, and thenceforward by a Settlement Officer, with an assistant, and with three Deputy Collectors (two for 18 months only). The results were —

Board's paras. 46, 47.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
11,21,289	12,76,430	1,55,141	13·8	3,90,961*

* Rs. 4,08,817 by revenue and settlement progress reports of 1871-72 and 1872-73.

Board's paras. 8—10.

Former settlements were as follows:

	Rs.
1803 (on cession) ...	10,00,000
1806-08	10,00,000
1809-12	11,10,000
1813-17	11,96,000
1839-40	12,45,000

None of these settlements worked well. The third was made at 90 per cent. on assets. The fourth broke down in two parganas. The fifth followed the famine of 1837-38, and had to be revised in 1844, when the assessments were reduced to Rs. 10,45,000, rising in five years to Rs. 11,40,000, subsequently reduced by appropriation of land, &c., to Rs. 11,21,289.

Pages 77—79.
Board's para. 47.
General pargana statements.

The assessment system followed was that of Mr. C. A. Elliott. Homestead and middle (*manjha*) lands were amalgamated in the eastern half of the district. Three-fifths of the soil-demarcations were made by the assessing officer; the rest, made by a trained staff, were checked by him. The result was a revenue incidence of Rs. 2-1-6 per cultivated acre, against Rs. 1-13-3 under the old settlement. On fractional areas the incidence was —

About—	Rs.	As.	P.
⅙th of district ...	2	7	6
⅘ths ditto ...	2	2	0
5/16ths ditto ...	1	13	4
⅓th ditto ...	1	8	0
¾th ditto ...	1	2	11

Page 82.

On the declared rental after assessment, corrected for sîr, &c., the new revenue demand fell at 55 per cent., or, after making allowance for concealed assets, at 53 per cent.; but only at 49·5 per cent. on the rental by assumed rent-rates. There are no produce statistics.

There is no table of tenures. The percentage of proprietary cultivation was 14·6. The irrigation percentage was 72·86, *i. e.*, about 16½ per cent. watered by canals, 6 per cent. by tanks and rivers, and the rest by wells.

Board's para. 24. Page 68. Board's para. 8.

Irrigation had increased by 16·7 per cent., and cultivation by at least 20 per cent., since 1840. Prices were 45 per cent. higher from 1859 to 1871 than from 1840 to 1854; but here, as elsewhere, rents had not risen to correspond.

Pages 68, 69. Page 73. Board's para. 21.

If confirmed, the settlement will be for 30 years, expiring in 1901-02 and 1902-03.

Board's para. 45.

The assumed rent-rates shew the following maxima and minima:

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Homestead		12	4	7	4	6	3
Loam ...	Wet ...	5	11	4	3	1	2
	Dry ...	2	3	1	1	12	1
Clay ...	...	2	3	1	1	10	1
Sand ...	Wet ...	3	15	2	2	10	2
	Dry ...	1	12	1	0	14	1

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1872-73	12,74,642
1873-74	12,75,693
1874-75	12,61,541
(Balance remitted for hail.)	
1875-76	12,65,273
1876-77	12,44,560
(Balance suspended or remitted on account of hail or land acquisitions.)	
1877-78	10,97,227
(Balance suspended on account of drought.)	

Deterioration by floods caused a reduction of the revenue demand from 1875-76 onwards. The revenue-roll of 1st October 1878 was Rs. 12,65,831.

The 1878-79 return of cultivation is 10 per cent. less than that of the year of settlement, owing, most probably, to imperfect statistics; and the result is that the revenue incidence of that year appears as Rs. 2-5-10.

Administration Report.

ETAWAH (NOT REVIEWED).

Area ... 1,698 *sq. miles.*
Population ... 668,581.

Board's paras. 2, 3.

SETTLEMENT operations began in 1868 and lasted till April 1874, or five and a half years. They were conducted by a Settlement Officer, with a European assistant (till the end of assessment), and two Deputy Collectors. The results were—

Board's paras. 33, 45.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
11,91,304	13,27,651	1,36,347	11·44	3,44,361*

* Rs. 3,87,785 by revenue and settlement progress reports, 1871-72 to 1874-75.

Former assessments were —

	Rs.
I.—1803-05	13,24,113
II.—1806-08	13,04,686
III.—1809-12	14,48,801
IV.—1813-17	14,57,031
V.—1818-22	14,63,375
VI.—1823-39	14,65,059
VII.—1841	13,10,938

Board's paras. 15, 16, 18.

subsequently reduced by Rs. 32,900 as relief, and Rs. 86,728 for lands taken up for public works. All the settlements before 1841 were too heavy. The sixth settlement ruined the large taluqdars.

* See Farrukhabad. Page 94.

Board's paras. 6, 9.

The system of assessment was Mr. Elliott's.* Lands were classed as homestead (*gauhan*) and outlying, the latter divided, first, by soils, and, secondly, by position (*manjha* = 1st class, *uparhar*=2nd class). All lands were distinguished as wet or dry. The demarcation of the soils was made by the inspecting officers on the field. Recent enhancements of rent were taken into consideration in working out the rent-rates.

Board's para. 34.

The incidence of the new demand on recorded rental was 65·5 per cent. On this rental, corrected for sîr, &c., and for concealed assets (7 per cent.), it was 60·2 per cent. On recorded rental of 1874-75 (after two years of enhancement suits) it was 58·1 per cent. only. The average rate was —

Parganas.	Per cultivated acre. Rs. As. P.
I.	2 5 2
II.	2 5 8
III.	2 13 5
IV.	2 10 11
V.	2 1 4
Whole district	2 6 9

The Government share of the gross produce was estimated at one-ninth to one-eleventh. Page 105.

Tenures were—

	Mahals.
Zamindari	1,325
Pattidari	433
Bhayachara	55

The bhayachara tenures were mostly *qabzawâr*, *i. e.*, each man's actual holding was the measure of his interest in the mahal. But proprietary tillage covered only 11·24 per cent. of the whole cultivated area. The percentage of waste on the assessable area was 21, and that of irrigation on the cultivated area was 48·43. Pages 21, 22. Page 9. Board's para. 28.

Cultivation had increased 21 per cent. since last settlement, but these additional acres had been assessed at a low rate in 1841 as new waste. Irrigation had increased 13·21 per cent. Prices had risen 40 per cent. Board's paras. 27, 29, 30.

If confirmed, the settlement will run for 30 years from dates between the end of 1871 and March 1873. Page 99.

Maxima and minima of rent-rates were — Rent-rate Reports.

		Maxima. Rs.	As.	P.	Minima. Rs.	As.	P.
Homestead	...	10	8	0	4	6	0
Loam	Wet ...	6	9	0	3	8	0
	Dry ...	6	0	0	0	14	0
Clay	Wet ...	5	4	0	2	10	0
	Dry ...	6	0	0	2	10	0
Sand	... ...	3	15	0	1	9	0

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1873-74	13,25,605
1874-75	12,96,046
(Balance remitted on account of hail.)	
1875-76	13,24,304
1876-77	13,20,105
(Do., and acquisition of land for public purposes.)	
1877-78	11,93,503
(Balance suspended on account of drought.)	

Revenue-roll on 1st October 1878, Rs. 13,26,704.

The cultivated area of 1878-79 is shown as more than 9 per cent. less than that of the year of settlement, probably by reason of some difference in the method of calculation, or of imperfect statistics for 1878-79. The result is to make the revenue incidence appear as Rs. 2-10-6. Nearly three-fifths of the irrigated area is shewn as watered by canals. Administration Report.

ALIGARH.

Area ... 1,954 *sq. miles.*
Population ... 1,073,333.

Paras. 401,408.

SETTLEMENT operations lasted from October 1866 to March 1874, or seven and a half years. They were conducted by a Settlement Officer, with a Deputy Collector and a European assistant (the latter for four and a half years). The result appears below:

G. O., para. 38.
Board's para. 27.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
18,47,769	21,47,342	2,99,573	16·2	4,66,376*

* Settlement progress report, 1875-76. The figures given by the Settlement Officer were only approximate (Rs. 4,55,000).

G. O., paras. 17—23.

The district was acquired in 1803. Two annual, two triennial, and one quadrennial settlement were followed by the quinquennial settlement of 1815-16, which was extended by short terms till the first 30-years settlement in 1833, the initial demand of which was Rs. 18,41,242. Assessments under the previous settlements included taluqas since resumed and parganas not now in the district, and are thus useless for purposes of comparison.

G. O., paras. 30, 31, 36.

Homestead (*goind*) and middle (*manjha*) lands were classed as wet and dry, irrespective of soil. Outer (*barha*) lands were classed as wet and dry under two kinds of soil. Rent-rates were then applied, "taken from a sufficient number of select-"ed villages, where rents can be shown "to be fairly adequate, and in the condi-"tion of which there is nothing abnormal. "They are pattern rates, which can be "applied without hardship to soils similar "to those of the estates from which "they have been chosen." In assessment, reliance was chiefly placed "on the estimate "of the quality of the village formed by "the settlement officer after careful and "detailed examination of all parts of the "land." The result was checked by rent-rolls variously computed.

Board's para. 17.

Page 100.

The incidence of the new assessments was as follows:

Tahsil.	Per acre of cultivation. Rs. As. P.
I.	1 15 1
II.	2 5 11
III.	2 7 2
IV.	2 2 4
V.	2 13 8
VI.	2 11 0
Whole district	2 6 3
Ditto under old assessments ...	2 0 11

Rents are supposed to have risen (by the end of 1879) to double, or nearly double, the revenue. The incidence of revenue on estimated gross outturn was 9·4 per cent. G. O., para. 48. Report, para. 188.

Tenures were as follows : Paras. 337, 360.

		No. of villages.
Taluqdari with sub-settlement (average malikana 29 per cent. on Government demand)	...	203
Zamindari (including taluqdari villages absorbed by the taluqdar)	...	1,079
Pattidari ... Perfect	...	128
Pattidari ... Imperfect	...	854

The proportion of proprietary cultivation was 23 per cent. The irrigation percentage was 72·3. The percentage of culturable waste was 12 only. G. O., para. 60. Paras. 289, 290.

The assessment was made on an assumed rise of 60 per cent. in the rental. Cultivation had increased 7 per cent. since 1833 (mostly in inferior land), irrigation by 28 per cent. Prices had risen 40 to 50 per cent. since the mutiny, and the value of land was increasing steadily. G. O., paras. 40, 42. Board's para. 19. Pages 103, 104.

The assessment was considered as "certainly not less than a full jama." It has been confirmed for 30 years from dates of introduction (between 1871 and 1874 apparently). G. O., para. 48.

Rent-rate maxima and minima are shewn below. The soil classes were principally artificial :

		Maxima. Rs.	As.	P.	Minima. Rs.	As.	P.
Homestead	Wet ...	12	4	8	11	6	0
	Dry ...	5	4	3	...		
Middle ...	Wet ...	8	12	6	8	4	0
	Dry ...	3	8	2	...		
Outlying ...	Wet ...	5	0	0	4	6	3
Do. dry	Loam ...	3	0	0	2	10	2
	Sand ...	2	0	0	1	10	4

Land revenue collections since settlement are shewn below :

Years.	Land revenue collections. Rs.	
1873-74	21,32,540	
1874-75	21,29,193	
1875-76	21,33,317	
1876-77	21,28,990	
	+2,099	arrears.
1877-78	21,17,795	(Balance due to drought.)

Revenue-roll of 1st October 1878, Rs. 21,38,755. The assessments apparently include about Rs. 9,000 not on the revenue-roll.

One-fifth of the irrigation of 1878-79 was from canals. The revenue incidence on cultivation in that year was Rs. 2-6-7. Administration Report.

AZAMGARH (NOT REVIEWED).

Temporarily-settled parganas only.

Area (whole district) ... 2,561 *sq. miles.*

Population (do.) ... 1,531,482.

Pages 199, 202.

WORK began in October 1866, and was carried on by a European Deputy Collector under the Collector till December 1867. A Settlement Officer was appointed in August 1868, and the record of rights was completed in March 1877. Settlement operations thus lasted ten and a half years, but field work had been suspended for financial reasons during 1869-70. Besides the above-mentioned officers, there was a Native Deputy Collector for four years, and a European assistant for three years. The results were —

Board's paras. 16, 17.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,45,722	16,61,623	4,15,901	33	7,33,519*

* Rs. 8,22,116 by settlement progress report of 1877-78. But this includes the revision of records in the permanently-settled parganas.

Former settlements were as follows :

			Rs.
Ain-i-Akbari (12 parganas)		...	... 2,52,643
At present (ditto)		...	... 13,19,000
14 parganas,	I. settlement	1802-03	... 6,19,781
	II. ditto	1806-08	... 8,57,346
	III. ditto	1809-12	... 9,28,085
	IV. ditto	1813-22	... 9,33,035
	V. Regn. IX. of 1833		... 12,42,274

The increase of demand at the fifth settlement was 33½ per cent., but only 23½ per cent. on revenue-paying lands, the rest being due to muafi resumptions.

Rent-rates were got by the following process :

Pages 212, 214.

"In order to ascertain the rent-rates "that might be assessed upon land for "which there is no declared rental, and in "order to check the recorded rental of "tenants' cash land, the system adopted "was this : At the survey, land was "classified into rice land and harjins or "rabi land. The former was further sub-"divided into three classes according to "quality, while the latter was sub-divided "into homestead (*per*) and outlying (*pálo*). "The sub-divisions were coloured on the "field map, and all fields returned by the "surveyor as unirrigated were marked with "a cross. A column for rent-rates was added "to the khasra, and into this the existing "rent-rate of each field was filled as survey "proceeded. Previous to assessment, the

"assessing officer visited each mauza with "the map and khasra. He had also before "him the village papers, filed in preceding "years by the patwáris, and returns re- "garding suits for rent in the revenue "courts. Traversing each mauza in such "directions as enabled him to see every "tract in it, all the sources of irrigation, "and every hamlet, and to check the "surveyor's soil returns as coloured on "the map, he examined the rent-rates "recorded in the khasra as he went along, "and formed his opinion as to the proper "classification of the lands of the village. "If any of his classes coincided with the "surveyor's, there was nothing more to "be done; and in the case of the main "divisions into rice land and harjins land, "there very rarely was any occasion to "alter the surveyor's return. If an alter- "ation was made in the amin's sub-divi- "sions, it was marked in the map, and the "area was subsequently ascertained from "the khasra. Inspections were made in "the company of landholders, tenants, "patwáris, and all who chose to attend. "While moving through the mauzas of "the pargana in this way, the assessing "officer necessarily saw much and heard "much. He tested and corrected the "paper returns by what he saw and heard, "and was eventually able to pick out from "among the varying rent-rates the rates "which, personal and caste consideration "being set aside, were commonest, and "seemed fairest in each of the sub-divi- "sions of the cultivated land which he "had been led to make. Finally, putting "his mauzawár classification together, he "obtained a return for the pargana, or, if "the pargana contained circles which "differed obviously from each other in "agricultural features, for the circles into "which the pargana was divided."

Ninety per cent. of the rents were cash.

The assessments fell at less than 48 per cent. on rentals at assumed rates. Enhancing circumstances (sayer, recent fallow, high current rent-rates) failed to counterbalance diminishing circumstances (revenue-free villages, high-caste or turbulent tenants, number and condition of landholders, precarious character of assets). There are no statistics of actual rents. On estimated gross produce (after deducting one-fourth for weather chances) the incidence of the new demand is shewn as only 4·6 per cent.

Pages 217, 219.

Statement VIII.

The average rate per cultivated acre was Rs. 2-4-4, against Rs. 2-3-7 of the expiring settlement. In one-third of the

Para. 487.

Page 220.

district it rose to Rs. 2-9-0, and in about one-thirteenth fell as low as Rs. 1-13-11; throughout the remaining parganas it varied little from the general average.

Page 90. There is no table of tenures. The total number of mahals was 3,446, with 107,952 proprietors. The percentage of proprietary cultivation was $42\frac{1}{4}$; in one pargana it was as high as $62\frac{3}{4}$.

Page 96.

Page 204. Ninety per cent. of the cultivated area was irrigated. The culturable waste was 14·8 per cent. of the assessable area.

Page 209. Cultivation (including resumed muafi) had increased by 30 per cent. since last settlement. The irrigation increase is not calculable, *all* the cultivated area of 1837 being shewn as irrigated. There are no price statistics going so far back.

Page 208. If confirmed, the settlement will run for 30 years from various dates between December 1869 and May 1875.

Pages 215, 216. Mr. A. Colvin's Memorandum. The maximum and minimum assumed rent-rates, by circles, were as shown below:

		Maximum.			Minimum.		
		Rs.	As.	P.	Rs.	As.	P.
Rice land	...	7	3	3	1	13	11
Rabi land — Homestead	...	8	15	7	4	10	1
Rabi land — Outer — Wet		4	8	8	2	12	4
Rabi land — Outer — Dry		3	1	4	2	5	0

ALLAHABAD (NOT REVIEWED BY BOARD).

Area ... 2,840 *sq., miles.*

Population 1,396,241.

SETTLEMENT operations began in October 1867, and lasted ten and a half years. For the first six and three-quarter years the staff consisted of a Settlement Officer, an Assistant Settlement Officer, and two Deputy Collectors; there was no Assistant Settlement Officer for the rest of the time. Results were as subjoined:

Pages 96–99, 183, 191.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.	Rs.	Rs.
19,85,703	23,83,088	3,97,385	20	11,09,689*

* Rs. 10,88,179 by settlement progress report of 1877-78.

Changes in the area of the district prevent comparison of former settlements before 1825, when the parganas now composing the Allahabad district bore an assessment of Rs. 18,61,380. Revision in 1834 raised the demand to Rs. 20,13,211. The regular settlement of 1838-39 was made at Rs. 21,09,176, subsequently (1860) reduced, by remissions in two tahsils, to Rs. 19,85,703. Rents are nearly all in cash.

There were three assessing officers. Their methods were as follows:

(1.) Rent-rates were got mainly by constant enquiry from cultivators, on the understanding that recognised soil rent-rates existed and were similar for similar soils over large tracts of country. Applying these rates, the result was compared with the rent-roll total, sîr being rated 50 per cent. higher than tenant's land. The pargana was divided into circles, within which soils were divided into homestead and outlying, both with distinction of irrigation, and the latter sub-divided into five* natural soils. The average revenue incidence in the three parganas thus assessed is shewn below:

* Loam. | Sand.
Clay. | Sandy loam.
Rice land.

	On the cultivated acre.	On rental after assessment.
	Rs. As. P.	Per cent.
I.	2 8 4	54
II.	2 3 5	54
III.	2 1 10	58

Page 106.

(2.) The second method is described by the assessing officer in these words —

I have first obtained, by an analysis of the jamabandi, the average rate actually paid by tenants with and without a right of occupancy during the ten years preceding 1277* Fasli (beginning with 1267 Fasli—the year from which the influence of Act X., 1859, and of the rise in prices may be supposed to have begun to affect rents—and ending with 1276 Fasli, the year of the settlement survey); and I have collected, by the aid of patwâris, statistics of all or most of the cases of enhancement which took place during the same period. From a consideration of the data thus obtained, *i. e.*, (1) of the average rate now paid, (2) of the enhancement in the average rate which has taken place in ten years, (3) of the area over which enhancement has taken place, and (4) of the enhanced rate now paid in that area, I have deduced a rate which may be expected to be the average tenant rate after the backward rents have been enhanced to their proper level. From this, taking into account the extent of sîr and shankalap lands, I have obtained an average rate for the whole circle. Finally, with this rate as my basis, I have worked out rates for the several soils by a comparison of the rates ascertained on the spot during my inspection with the rates recorded in the jamabandis.

* 1st July 1869 to 30th June 1870.

Practically, the same soil-classification was adopted. Homestead land (*goind*) was assessed at an extra rate in excess of that on similar outlying soils. The resultant incidence in each pargana was—

	Per cultivated acre.	On new rentals.
	Rs. As. P.	Per cent.
I.	2 10 4	52·1
II.	2 14 6	61·8
III.	2 12 10	54·4
IV.	3 4 1	53·8
V.	3 12 11	51
VI.	2 7 3	52·3
VII.	1 10 10	53·7

The high rate in IV. and the low rate in VII. are explained by the former being the richest part of the district, and the latter one of the poorest—all rock or swamp.

(3.) The basis of the system was correct classification of soils, enabling circles to be dispensed with. Demarcation of soils was made by munsarims, and corrected by the settlement officer; the classes were generally the same as in (1) and (2). Soil-rates were first got by personal enquiry at the time of demarcation, and corrected by analysis of rent-rolls, allowing for caste of

tenants. The revenue incidence was —

	Per cultivated acre. Rs. As. P.	On new rentals. Per cent.
I.	2 11 4	54·1
II.	2 12 3	52·1
III.	2 7 0	54·6
IV.	2 6 9	48·2

The incidence on the cultivated acre for the whole district was Rs. 2-4-11, against Rs. 1-14-9 under the old settlement.

Tenures are shewn below :

		Number of mahals.
Zamindari ...	...	3,760
Pattidari ... Perfect	...	478
Pattidari ... Imperfect	...	1,216
Bhayachara ...	...	225

In 531 mahals there are superior proprietors receiving a malikana of 10 per cent.

The percentage of proprietary cultivation is 15·2. The irrigation percentage is 36·4; the culturable waste percentage is about 29.

Irrigation had increased by 21·5, and cultivation by 28 per cent. since 1839. Prices had risen about 20 per cent.

Maxima and minima of rent-rates were as follow :

	Maxima. Rs. As. P.	Minima. Rs. As. P.
Homestead ...	12 0 0	5 0 0
Loam ... Wet	8 8 0	5 12 0
Loam ... Dry	6 2 0	3 14 0
Do. II. Wet	6 6 0	3 0 0
Do. II. Dry	4 4 0	1 14 0
Clay ... Wet	6 8 0	3 12 0
Clay ... Dry	4 8 0	1 8 0
Sand ... Wet	6 6 0	2 14 0
Sand ... Dry	4 4 0	1 0 0

The last assessments appear to have been declared in 1877-78, so that the last year of the settlement, if sanctioned, should be 1907-08. The revenue-roll of 1st October 1878 was Rs. 23,67,547. Rs. 13,050 of the new assessments were progressive from 1286 F. (1st July 1878). Page 183.

CAWNPORE (NOT REVIEWED).

Area ... 2,337 *sq. miles.*
Population ... 1,156,055.

Chap. V., para. 44.
Board's paras. 23, 24.

SETTLEMENT operations began in 1868 under the Collector, with a European assistant; were suspended for financial reasons in 1869; and were resumed by a Settlement Officer in October 1872. Measurements were completed in 1872-73, and assessments between 1871-72 and 1875-76. The final report was submitted on the 31st March 1878, after the work had been going on about six and a half years.

Board's paras. 37, 43.

There was a European assistant from 1872 onwards, besides Native Deputy Collectors. The results are subjoined:

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
21,30,405	21,60,682	30,277	1·42	6,98,605*

* Rs. 7,00,865 by settlement progress report of 1877-78.

Previous settlements were as follows. The first was that made immediately after cession (1803); the last was made in 1840; intermediate dates are not given:

			Rs.
I.	...	...	24,69,046
II.	...	...	23,83,090
III.	...	...	23,16,301
IV.	...	...	23,20,548
V.	...	...	21,81,776

Chap. II., paras. 85, 101.

Board's para. 16.

The first settlement was an advance "even on the exaggerated estimate given "by the Nawab's rent-rolls," and all the early settlements were severe, the revenue-rate often exceeding the present rent-rate. The fifth assessment was milder, following the famine of 1837-38, but it, too, had to be reduced to Rs. 21,24,339, rising gradually to the figure shewn above.

Board's paras. 25, 27.
Appendix D.
Report, paras. 27, 28.

Though there were three assessing officers, the method followed by each was much the same. Lands were classed as *gauhan*, *manjha*, and *barha* (homestead, middle, and outer), and sub-divided according to soil. As a matter of fact, the soil within the *gauhan* and *manjha* circles was tolerably homogeneous, and it rarely was the case that any one village presented

a great variety of soil-classification. Rent-rates for wet and dry soils in each circle were got as follows: "Every village "was visited by the settlement officer with "a tracing of the field map in his hand, on "which he marked off the blocks of differ-"ent soils, and noted on every field its rent-"rate as recorded in the jamabandi; this "afforded generally a fair criterion of the "several soil-rates. Besides these jama-"bandi rates, there were also the rates "stated by the landlord or the tenant, "sometimes for a *hâr* or homogeneous tract "of land." These statistics, compiled for the pargana, "came up for thorough analysis "and comparison" at the close of the season's inspection. "Not until this stage was "reached were rates finally accepted or "adopted." As regards the distinction between wet and dry, it was found that "the "rent-paying capacity of the land (especi-"ally of the outlying lands) depended "almost as much upon its potentiality of "irrigation as upon its actual irrigation;" *i. e.*, there was a tendency to exact rent at wet rates from all fields in a tract where wells could be dug, whether a well actually had been dug or not.

The incidence of the new assessments varied from Rs. 2-15-4 to Rs. 1-15-0 per cultivated acre. It was Rs. 2-14-6 over about three-eighths of the district, Rs. 1-10-0 over a little less than a quarter, and Rs. 2-0-2 over the remainder, the whole district average being Rs. 2-8-4. The old assessments had an initial incidence of Rs. 2-12-8, and an expiring incidence of Rs. 2-7-5. The incidence of the new assessments on *declared* rentals of 1872-73 was 62·3 per cent.

Page 100.

Appendix K.

Tenures are shown as follows:

Page B.

		Number of mahals.
Zamindari		1,772
Pattidari	Perfect ...	253
	Imperfect ...	572
Bhayachara		20

The percentage of proprietary cultivation was 19.

Page 10.

The irrigation and culturable waste percentages respectively were 40·5 (15·3 canal) and 9·1.

Pages 6, 49.

The increase in cultivation since last settlement had been 4 per cent., and in irrigation about 16 per cent. Rs. 71,495 of revenue were credited to the canal in 1877-78.

Pages 50, 52.

Page 53.

Appendix H.

If sanctioned, the settlement would run for 30 years, beginning on various dates between November 1874 and May 1877.

The maxima and minima of rent-rates were as follows :

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Homestead	Wet ...	14	0	0	6	0	0
	Dry ...	7	0	0	5	0	0
Loam ...	Wet ...	7	0	0	4	0	0
	Dry ...	6	0	0	2	8	0
Clay ...	Wet ...	6	0	0	2	8	0
	Dry ...	6	0	0	1	0	0
Sand ...	Wet ...	6	0	0	2	8	0
	Dry ...	5	0	0	1	0	0

Land revenue collections since settlement are shewn below :

Years.		Land revenue collections. Rs.
1875-76	...	... 21,24,168 (Settlement progressing.)
1876-77	...	... 21,44,043 + 3,596 arrears.
1877-78	...	... 21,50,765 (Balance mainly due to drought.)

Revenue-roll on 1st October 1878, Rs. 21,58,240, with an incidence of Rs. 2-8-2. The irrigation percentage is shewn for 1878-79 as 43·5 (18 per cent. canals).

Administration Report.

FATEHPUR (NOT REVIEWED).

Area ... 1,631 *sq. miles.*
Population ... 663,877.

MEASUREMENTS lasted from December 1870 to March 1873; assessment from the winter of 1871 to the spring of 1876; and the final report seems to have been submitted early in 1879, but record work had been completed by the autumn of 1877. Settlement operations thus lasted about seven years. They were conducted by a Settlement Officer, with a European assistant and a Deputy Collector, and with a second Deputy Collector for the last two years. The results are shewn below: Board's paras. 20, 21.

Board's paras. 24, 28.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
14,08,715	13,07,297	—1,01,418	7·2	5,69,927*

* Rs. 5,66,977 by settlement progress report of 1877-78.

Former settlements were as follows: Board's para. 14.

		Rs.
On cession	(1803)...	14,44,484
	1804 ...	12,59,102
	1809 ...	12,92,354
	1812 ...	13,62,736

This last settlement was for four years only, but remained in force till the first regular settlement in 1840.

Soils were divided into homestead and outlying (*uparhar*) only, and sub-divided into wet and dry; and the outlying lands were also sub-divided according to soil-classes, which were numerous in this district. After demarcation of the soils (by the settlement officer personally in the three tahsils first assessed, and afterwards by trained munsarims), "average rent-rates "were gradually formed, being based on "careful personal inquiry, on the analysis "of leases, and on the ascertained rents of "*hârs*" (homogeneous soil-areas). Also, in each pargana a number of villages were selected in which fairly correct rents were entered for each field (*i. e.*, not lump rents, or rents irregularly distributed over a holding not homogeneous), and which might be called representative villages, and their rent-rates were compared with the pargana average. The pargana rent-rates thus evolved were based on the prevailing rates, as found to be paid in each pargana "by the great body of industrious "tenants in estates neither rack-rented on "the one hand, nor paying rents below the Pages 58—64.

Pages 54, 56.

"average on the other." The rent-rates of the district were high, owing to the severe assessments to which it had long been subjected; and they were unequal, pressing most heavily upon the most submissive classes.

Page 99.

The incidence of the new assessments was Rs. 2-7-4 per cultivated acre, against Rs. 2-10-4 of the expiring settlement. In two parganas it was Rs. 2-14-0, in six Rs. 2-9-0, in three Rs. 2-5-0, and in two parganas Rs. 2-0-0. On the recorded rental of 1875-76, the revenue demand fell at 61·8, and on the rental corrected by full valuation of sîr, &c., at 55·7 per cent. On estimated value of gross outturn, the revenue percentage was 10.

Page 49.

Page 25.

Page 15.

Tenures were —

		Mahals.
Zamindari	...	1,555
Pattidari { Perfect ...	...	328
Pattidari { Imperfect	...	262

Page 14.

The percentage of proprietary cultivation was 12½ only.

The irrigation and culturable waste percentages were respectively 53 and 22.

Page 43.

Cultivation had increased only about 3 per cent., and irrigation 5·4 per cent., but prices had risen about 25 per cent. since last settlement. The reduction in the revenue demand was due to the over-assessment which had long been the lot of the district.

The rent-rate maxima and minima were —

		Minima. Rs. As. P.	Maxima. Rs. As. P.
Homestead	Wet ...	12 8 0	7 8 0
	Dry ...	6 0 0	...
Loam ...	Wet ...	7 8 0	4 8 0
	Dry ...	4 4 0	2 12 0
Clay ...	...	5 12 0	2 4 0
Sand ...	Wet ...	4 4 0	...
	Dry ...	2 8 0	...

The settlement, if sanctioned, would apparently expire between 1,901 and 1,906.

Land revenue collections since settlement are shewn below :

Years.	Land revenue collections. Rs.
1876-77 ...	... 13,20,504
1877-78 ...	... 12,97,816 (Balance due to drought.)

Revenue-roll of 1st October 1878, Rs. 13,07,505.

MUTTRA (NOT REVIEWED BY BOARD).

Area ... ... 1,346 *sq. miles.*
Population ... 729,923.

SETTLEMENT operations, under a Settlement Officer and an assistant, with two Deputy Collectors (three for last three and a half years), lasted from April 1872 to March 1879, or about seven years, and gave the following results:

Page 81.

Pages 98, 99. Settlement progress report of 1877-78.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
13,57,382	15,31,304	1,73,922	12·9	6,02,973*

* Rs. 6,65,095 by settlement progress report of 1877-78.

Former settlements were as follows:

	Rs.
1809	10,14,818
1813	10,14,562
1816	11,03,536

Then came the regular settlement.

The cadastral survey in Muttra was made by the Revenue Survey Department, and cost, including the printing of maps, Rs. 2,69,093. This sum is part of the total settlement charges shewn above.

The assessments were made on Mr. Elliott's system. A *manjha* circle was maintained in four parganas. Distinction was made as to irrigation. The demarcation of soils was made by a specially trained establishment, after the assessing officer had inspected the tract. By this inspection he acquired "a general knowledge of the "rates applicable to each kind of land, and "he had also a special knowledge of the "peculiarities of each estate. Aided by "this, he could, on going through the list "of villages, exclude those in which he "knew that no representative rates could "be found; thus in some villages the rents "were rack-rents, in others the record was "untrustworthy, in others all the area was "sîr, paying no rent at all, or else the "tenants, either from being nearly related "to the proprietary body, or some other "valid reason, paid long-fixed customary "rents. These being excluded, there re-"mained what may be called the villages "paying the average *bonâ-fide* rents. A "list of these villages was sent to the "statistical office, where the rent of every "tenant in them was broken up into its "component soils, and the rent paid accord-"ing to the khatiauni slips, verified by

Page 96.

"zamindars and cultivators, given. The "settlement officer again going through "this list struck out all abnormally high or "abnormally low rents (for even in villages "so selected there must be many such). "From this final list the tenants holding "one kind of soil only were abstracted and "totalled, and the rent divided by the area "gave a rate of rent for that soil; where "the area was small, this rate was of course "useless, but where large enough, it formed "a good basis for further testing. The "general test applied was this: each soil in "the final list from which these particular "holdings in single soils were selected was "totalled separately, and the rate, as found "in the way previously described, applied to "it, and the sum of the rentals so deduced "was compared with the total rental ac-"tually paid for the land. It was always "found that the rents paid for holdings in "a single class of soil, which are presum-"ably in a ring fence, run rather higher "than general rates; allowing for this, the "approximation was in all cases very close.

"The rates, therefore, on which the "assessments were based, are those which "we are absolutely certain now govern the "average *bonâ-fide* transactions between "landlords and tenants. Rack-rates have "been excluded, as well as speculations on "the possible rise in rents hereafter."

Then assessment was made with allowance for the special character of the village.

The incidence by parganas was as follows:

	On the cultivated acre.			Per cent. on rental after settlement (corrected for sir).
	Rs.	As.	P.	
I.	3	5	0	59·2
II.	3	1	11	53·8
III.	2	11	9	54
IV.	2	8	3	not shewn.
V.	2	0	5	
VI.	1	11	10	
VII.	2	0	2	

For the whole district the incidence was Rs. 2-5-8 per cultivated acre, *i. e.*, Rs. 2-12-8 in the cis-Jumna, and Rs. 1-14-8 in the trans-Jumna tahsils.

Statistics of tenures are not given. The percentage of proprietary cultivation was 32·8 and 24·2 in the trans-Jumna and cis-Jumna tracts, respectively, in 1848·50, and is now 25·4 and 24·9 per cent.

The culturable waste is 9·9 per cent. of the total assessable area, and 54 per cent.

of the cultivated area is irrigated. About 6 per cent. of the cultivated area was watered by canals in 1877-78 (the year of drought).

Cultivation had increased 6·7 per cent. since 1852, and 16·6 per cent. since 1847-48. The increase in irrigation since last settlement had been very great, running as high as 108 and 141 per cent. in two tahsils. It was estimated that prices had risen 50 per cent.

The maxima and minima of rent-rates were as follows:

		Maxima.			Minima.		
		Rs.	As.	P.	Rs.	As.	P.
Homestead	...	14	0	0	5	8	0
Middle	...	10	0	0	5	0	0
Outer I. Wet	...	7	4	0	4	12	0
Outer I. Dry	...	5	4	0	3	6	0
Do. II. Wet	...	5	8	0	3	8	0
Do. II. Dry	...	3	8	0	2	12	0
Sand ... Wet	...	3	0	0			
Sand ... Dry	...	2	0	0	1	4	0

Territorial transfers from Agra raised the revenue demand on the 1st October 1878 to Rs. 15,95,409, and the revenue incidence on cultivation to Rs. 2-7-5.

LALITPUR.

Area ... ... 1,947 *sq. miles.*
Population ... 212,628.

Report, para. 124.
Commissioner's para. 6.
Page 49.

THIS district had the misfortune to be under settlement sixteen years (1853—1869). The work done before 1857 perished in the mutiny. In the winter of 1859, operations were resumed, and were carried on by various district officers till the beginning of 1869. Professional and khasra surveys went on independently, and the disturbed state of the country delayed their completion till the end of 1862; the remaining six years (1863—1869) were taken up by the work of assessment. Excluding the pre-mutiny period, settlement operations lasted a few months more than nine years. They were conducted by the District Officer, with a Native assistant. The results were as follows:

	Yrs.	Mths.
October 1859 (say) to December 1862 ...	3	3
1863 to 1869 ...	6	0
	9	3

Board's paras. 22, 28.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,67,193	1,47,802	—19,391	1·16	1,93,276*

* Rs. 1,67,614 by revenue report of 1869-70, page lxix.

Former settlements (omitting two parganas added in 1860) were as follows:

	Rs.
1843-1847	97,758
1848-1853	1,07,068
1854-1860	96,949
1860 to present settlement ...	99,223
Present settlement, excluding the two parganas	90,397

Page 32.

These settlements were all made on the rent-rolls, considerably more than 66 per cent. being taken in many instances as a set-off against sîr and privileged rentals. They all erred on the side of over-assessment.

G. O., paras. 6—8.

There are three main kinds of soil (black soil, gravel, and a class between); the two latter are irrigated. The local cash-rents per bigha were regulated not by the soil, but by the crop grown. "Ascertaining the "system of rotation and the actual area of "each class of soil under each crop, and "estimating the average produce and net "profits of that crop, the assessing officers "translated the crop-rates of each village "into soil-rates. They then divided the "villages according to their capacities and "advantages into three (or in some cases "four) classes, and drew out the average "rates for every kind of soil in each class "of village in each pargana."

Mr. A. Colvin's Memorandum.

The rent-rates thus evolved were—

		Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Black soil (double-crop.)	Wet	5	0	0	1	8	0
	Dry	2	8	0	0	12	0
Medium (single-crop.)	Wet	4	0	0	1	4	0
	Dry	2	0	0	0	8	0
Gravelly ...	Wet	3	8	0	1	0	0
	Dry	1	0	0	0	4	0

per cultivated acre without irrigation. On irrigated lands the rates varied from one to five rupees. Lalitpur, however, is not a district adapted to the stringent application of average rates, and the actual assessments fell below the above standards. By parganas, the revenue incidence varied from $7\frac{1}{2}$ to $12\frac{3}{4}$ annas on the cultivated acre. By villages, it ranged between Rs. 2-3-2 and $1\frac{1}{3}$ annas. For the whole district it was $10\frac{1}{4}$ annas, against $10\frac{1}{6}$ annas in the adjoining district of Sâgar.* The incidence of the old assessments had been 11 annas 7 pie. The incidence of the new assessments on recorded rentals was $58\frac{1}{2}$, but on assumed rentals (by full valuation of sîr) only 51 per cent.

Page 39.
Board's para. 26.

Board's paras. 22 & 23.

* 11 annas 2 pie at settlement (1867).

Forests measuring 90,694 acres were demarcated and reserved.

Page 40.

Page 27.

Settlement was made in most cases with the descendants of the original founders of the villages (bush-cutters, *jharia kât*), but in some cases with farmers, who were now invested with proprietary right. No proprietary rights in the soil had been recognised under Mahratta rule, nor under the summary settlements.

Page 45.

The proportion of the cultivated area tilled by proprietors was 15 per cent.

Appendix 9.

Tenures are shewn as follows:

		Mahals.
Zamindari	... ...	653
Pattidari	Perfect ...	3
	Imperfect ...	87
Bhayachara	... ...	6

Less than 10 per cent. of the cultivated area at settlement was irrigated.

Pages 2, 3.

The Board, in recommending the settlement for sanction, remarked—"the present "is undoubtedly a very light assessment, "but a very moderate one is necessary." The district is remote and backward, and the people are poor. The settlement expires on the 30th June 1888.

Board's para. 24.

Government review, paras. 12, 14.
Sir W. Muir's Memorandum.
Government review, para. 13.
Board's para. 28. Report, para. 204.
Appendix 15 there mentioned is not in the volume.

Land revenue collections since settlement are shewn below:

Years.	Land revenue collections. Rs.
1869-70	1,43,788
1870-71	1,43,635
1871-72	1,28,679
(Deficiency due to drought of 1868-69.)	
1872-73	1,37,855 +13,793 arrears.
1873-74	1,39,241 +4,860 arrears.
1874-75	1,45,291
1875-76	1,46,766
1876-77	1,41,281
1877-78	1,44,779

Revenue-roll of 1st October 1878, Rs. 1,49,055. The incidence on cultivation is shewn as Re. 0-11-9,—a difference due probably to inclusion of temporary fallow in the settlement cultivated area.

JHANSI.

Area ... ... 1,568 *sq. miles.*
Population ... 317,735.

Para. 9, Government review.

Commissioner's paras. 11, 12.
Government review, paras. 21—26, 28.
Board's para. 40.

THE settlement of three of the six parganas of this district was completed and sanctioned before the mutiny. Settlement work in the remaining three parganas lasted three and a half years. The results were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,56,825	4,81,874	—84,951	15	1,47,777*

* There is no means of checking this. The revenue reports do not go so far back.

The new assessment included the demand from resumed revenue-free lands. The settlement was conducted on the old system, viz., by the district officer. Comparison with the former assessment is of little use, as the summary settlements which preceded the present and first regular settlement were nothing more than rough reductions of the excessive demand imposed by the native Governments who possessed Jhansi until a relatively recent date. The circumstances of the district are peculiar, and special legislation has been proposed to meet them. The settlement was not formally sanctioned till part of it had been fifteen and part ten years at work; and the assessments were then said to be very light. They have since been proved to be not more than half the rental in the two parganas recommended for special measures of relief.

Mr. Jenkinson's para. 442.

Government review, paras. 10, 30.

Different methods were followed by the different officers engaged in assessment. The pre-mutiny assessments were based on 'produce-rates,' compared with the actual revenue-rates in adjoining districts, and taken on an average for assessment circles. In two other parganas, deduced rent-rates were got by ascertaining the village rates at which the five classes of soils paid rent. These rates were generally known, though the areas in village bighas were mere guess-work. Applying them to the correct measured areas, the result was a rent-roll based on actual rates. Average rates were then got by grouping the villages in four classes according to the general goodness of their lands; and upon the 'deduced rent-rates' and the average rates together the assessment was made. The sixth pargana

consisted partly of villages paying rent by the bigha, and partly of villages where the lands attached to wells are let out, good and bad together, at a lump rent. The bighawar villages were divided into two classes, and the actually current soil-rates were ascertained, from the rent-rolls and by local inquiry, for each of the six classes of soil (three of which were sub-classed as wet or dry). The *kuábandi* villages were treated with comparative rates somewhat lighter than these.

The revenue, as finally determined by these different processes, fell at Rs. 1-3-8 per acre on $\frac{2}{7}$ths. of the culturable area of the district, at Re. 0-14-3 on $\frac{7}{17}$ths. of the district, and at 8 annas on the remainder. The two parganas for which special relief measures have been advocated are parts of the two first divisions. On the cultivated acre the incidence varied from Rs. 1-11-6 to Re. 0-11-9; in the two distressed parganas it was Rs. 1-8-2 and Rs. 1-3-5. For the whole district it was Rs. 1-3-11. The proportion of the revenue demand to the declared average rent-roll of five years ending with 1870 was 57·6 per cent., but this is not on a full valuation of sîr. On gross assets the incidence was reckoned at 13·2 per cent., leaving 15·4 to the landlord and 71·4 to the cultivator.

Appendix IV. Board's para. 22.

Board's paras. 27, 29.

Settlement was made with the village communities, *i. e.*, with cultivating proprietors, holding 41·8 of the cultivated area themselves. They were regarded as jointly responsible for the revenue demand, but as a matter of fact the principle has not been enforced, and each proprietor is treated as liable for his share of revenue only. Under these were a tenantry represented for the most part as 'old cultivators' *(purâna jotâr)*, who had their rights by virtue of descent from the cultivators settled on foundation of the village, or by virtue of digging wells or making embankments. The 'old cultivator' could sell or mortgage; could on default relinquish possession for a term of years, and yet on payment claim re-entry; and a subordinate tenant *(naya jotâr)* could acquire no rights against him, except with his permission.

Board's paras. 32, 34, 35.

Three parganas were virtually unirrigated at settlement. In three others the irrigated percentages of settlement cultivation were 4, 7·41, and 20·5; and the revenue incidence was respectively Rs. 1-10-9, Rs. 1-2-11, and Re. 0-12-0, shewing that irrigation had little to do with assessment.

The maxima and minima of rent-rates (in three parganas) were —

	Maxima. Rs.	As.	P.	Minima. Rs.	A.	P.
Black-soil I. ...	4	9	1	0	15	6
Ditto II. ...	4	4	0	1	2	0
Clay-sand ...	3	14	0	0	11	0
Gravelly ...	3	14	0	0	7	0

Land revenue collections since settlement are shewn below :

Years.	Land revenue collections. Rs.
1867-68 ...	... 4,76,879
1868-69 ...	... 2,94,342 (Year of the drought.)
1869-70 ...	... 4,86,174
1870-71 ...	... 4,71,006
1871-72 ...	... 4,53,397
1872-73 ...	... 3,65,601
1873-74 ...	... 4,12,957
1874-75 ...	... 4,12,853
1875-76 ...	... 4,11,435
1876-77 ...	... 4,23,087
1877-78 ...	... 3,85,633 (Balance due to drought.)

From 1870-71 onwards, suspensions and remissions of revenue, on account of bad seasons and deterioration under *kans* grass, have been annually made. The revenue-roll of 1st October 1878 shewed a demand of Rs. 4,48,507 only, with an incidence on cultivation of Rs. 1-1-11.

The present settlement expires on the 30th June 1884.

JALAUN

(EXCLUDING KALPI AND PART OF KUNCH).

Area ... ... 1,555* *sq. miles.*
Population ... 404,384.*

* Area and population of Jalaun, including Kalpi and Kunch.

THE khasra survey of Jalaun, which was the first of its kind in the North-Western Provinces, began in 1853, ended in 1856, and was found to have suffered a derangement of only 20† per cent. in the mutiny when operations were resumed in September 1860. Assessments were finished in 1863, the completion of the records lasted till 1865, and a subsequent revision of the assessments, partly suggested by permanent settlement theories, prolonged operations till April 1869. Without reckoning the three years before the mutiny, some part of which should be counted as having contributed permanent data, the work occupied seven and a half years. The results of the settlement are as follows:

Government review, para. 4.

Mr. White's report, paras. 7—12.

† 181 villages out of 676 had to be re-measured.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
6,09,762	5,98,754	11,008	1·8

	Yrs.	Mths.
September 1860 to May 1863 ...	2	9
November 1863 to February 1865 ...	1	4
March 1865 to April 1869 (excluding one break of 6 months)...	3	6
	7	7

Government review, paras. 5, 10.

	Rs.
Revenue, 1859 ...	6,14,516
Deduct quit-rent of Jagamanpur jagir ...	4,754
	6,09,762
Revenue realizable under new assessment ...	6,03,508
Deduct quit-rent ...	4,754
	5,98,754

The total cost of settlement operations is not known. They were conducted by the district officer until November 1863, and thenceforward by a Settlement Officer. No European assistant was ever appointed, but there was always a Native Deputy Collector.

Board's para. 31.

Page 101.

The assessment was not made upon any systematic plan. Instead of average rates, the basis was a special set of rates for each village, *i. e.*, the assessment was made chiefly on the rent-rolls, checked by local inquiry and comparison. Subsequent revision, conducted on the same data, increased the demand by Rs. 13,374. By parganas, the revenue incidence per acre of cultivation varied from Rs. 1-2-2 to Rs. 1-10-1; on the whole district (exclusive of Kalpi) it was Rs. 1-5-0. The demand was 44·7 per cent. of the average declared rent-rolls of the four years 1866-1870.

G. O., para. 10.

Page 88.

Statement IV.

G. O. para 12.

Tenures are shewn as follows:

Appendix XIII. (page 122).

		Mahals.
Zamindari ...	...	299
Pattidari { Perfect	...	2
Pattidari { Imperfect	...	382
Bhayachara ...	...	22

The persons admitted to settlement represented the old proprietary community. They were cultivating proprietors, themselves tilling 46·4 per cent. of the

Appendix XII. (page 121).

settlement cultivated area. At first only their leading men were recorded, but the subsequent revision raised the number of sharers from 4,649 to 13,095.

Page 69.

Previous settlements are shewn below:

Appendix XV. (page 124).

		Rs.
1840 (for one year)		4,13,839 (one pargana under Gwalior.)
1841—45 (for five years)	... ...	5,77,176
1846—50 (for five years)	... ...	6,08,428
1851—62 (made for five years, but extended to eleven.)	... ...	6,60,886

Pages 109, 111.

Cultivation had increased by 50 per cent. between the surveys of 1840 and 1865. The new assessments were regarded by the local Government as moderate. They are for 20 years, ending on the 30th June 1882.

G. O., para. 13.

Appendix V., VI.

Only 4·4 per cent of settlement cultivation was irrigated.

Page 1.

Pargana Kalpi was separately assessed by the officer who revised the Jalaun assessments. The rent-rate report was submitted in November 1869, but the final report bears date April 1874. The work was done by a Settlement Officer, with a Native assistant part of the time. The results are as follows:

Page 90.

Board's para. 6.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
78,628	91,255	12,627	16

Page 89.

The expenses of settlement are not shown. Measurement alone cost Rs. 2,985.

Page 6.

Former settlements were as shown below:

Year.	Term.	Amount.	Balance on whole term.
		Rs.	Rs.
1806	... one year ...	76,825	*Nil.*
1807	... 3 years ...	84,396	*Nil.*
1810	... ditto ...	89,474	4,052
1814	... ditto ...	89,416	8,284
1816	... 5 years ...	1,15,334	16,078
1821	... ditto ...	1,12,514	15,959
1826	... ditto ...	1,05,349	21,957
1831	... ditto ...	93,067	28,160
1836	... ditto ...	93,423	98,772
1841	... 30 years ...	78,335	25,771

Page 5.

The 30-years settlement was made by Sir W. Muir (then Mr. Muir), who recorded his opinion of "the fearful lengths "to which exaction had been carried." Ten villages were at that time held *kham*, the revenue demand from 16 was 25 per cent. in excess of the gross assets, and 50 more had been depopulated by famine; this out of a total of 108 villages (135 mahals).

Page 1.

Rent-rates were got by "detailed inquiries from village to village," assuming five classes of villages and seven classes of soils. From the rates thus evolved, a deduction, varying from 5 per cent. on the best, to 30 per cent. on the worst soil was made to cover the chances of the seasons. The result was a series of 'net average rent rates' ranging from Rs. 10-9-0 to Re. 0-15-0 per cultivated acre. The revenue deducible from these rates was increased by 3·6 per cent. for future rise in rents. An assessment was also made of the surplus culturable waste, but was taken off by the local Government. The revenue incidence per cultivated acre was Rs. 3-7-9 on 1st class, Rs. 2-15 on 2nd class, Rs. 1-13-4 on 3rd class, Rs. 1-4-4 on 4th class, and Re. 0-11-3 on 5th class villages, and for the pargana it was Rs. 1-8-2. The settlement officer calculated that rents had risen about 27 per cent. since last settlement. On the estimated value of gross produce the assessments fell at 13·6 per cent.

Page 15.

Page 14.

Page 16.

Page 24.

Page 140.

Appendix XV.

Pages 9, 11. Appendix XI.

Tenures at settlement were as follows:

		Mahals.
Zamindari		138
Pattidari { Perfect ...		8
Pattidari { Imperfect ...		42
Bhayachara		13

Page 37.

There remains pargana Kunch, of which the settlement report is not to hand. But in the district memoir attached to the Kalpi report, some statistics are given of the revenue demand from the entire district, and the cost can be made out from the revenue reports of 1870-71 to 1873-74. These results are shewn below:

Paras. 211, 213, 214.

Old assessment.	New. assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,91,962	9,06,208	14,246	1·6	2,13,919

These figures, however, include revenue assigned away. The old revenue demand, as originally assessed, was Rs. 9,43,734, with an incidence of Rs. 2-4-0 per cultivated acre. It had to be reduced as above, giving an incidence of Rs. 2-2-0. The incidence of the new assessments was Rs. 1-7-8.

Cultivation had increased 46 per cent. since last settlement. The settlement officer has left on record that an increase of a lakh and a half or two lakhs should be obtained by the settlement of 1882-83.

Page 70.

Only 4·3 per cent. of the settlement cultivated area was irrigated.

Pages 64, 65.

The average rent-rates were as follows :

I.—JALAUN.

		Rs.	As.	P.
Black-soil, I.	...	3	10	3
Do. II.	...	2	14	7
Clay-sand	...	2	7	11
		to		
		2	6	7
Gravelly	...	2	11	8
		to		
		1	4	9

II.—KALPI.

		Rs.	As.	P.
Black-soil, I.	...	4	13	0
		to		
		2	15	0
Do. II.	...	3	8	0
		to		
		2	4	0
Clay-sand	...	3	8	0
		to		
		1	12	0
Gravelly	...	1	3	0
		to		
		0	15	0

Subsequent figures are subjoined :

Years.		Land revenue collections. Rs.
1873-74	...	8,98,343
1874-75	...	8,98,814
1875-76	...	9,07,539
1876-77	...	9,08,636
1877-78	...	8,18,282 (Balance due to drought.)

Administration Report.

Revenue-roll of 1st October 1875, Rs. 9,15,035. The increase is mainly due to progressive assessments, but in part also to resumption of revenue-free lands, and dates from the end of 1874-75. It raised the revenue incidence on cultivation to Rs. 1-9 by 1878-79. The irrigation percentage of that year is shewn as 3 only.

DEHRA DUN (EXCLUSIVE OF JAUNSAR BAWAR).

Area	...	...*1,193 *sq. miles.*
Population		...*116,945.

* These figures include the area and population of Jaunsár Báwar.

RE-SETTLEMENT began in 1860, and was carried on by two successive Superintendents till February 1864. It was resumed under revised instructions in October 1865, and the final report was submitted in April 1867. Thus the entire duration of settlement operations was about $5\frac{3}{4}$ years. The results were—

Board's para. 10.

	Y.	M.	D.
1860 to 22nd Feb. 1864	4	2	22
Oct. 1865 to April 1867	1	6	0
	5	8	22

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
20,505	35,970 rising to 38,695	15,465 to 18,190	75 to 90	45,083

G. O., paras. 2, 7.

Rent-rates were got by calculating (from cash leases and produce estimates) the actual assets on a selected area (the sum of the areas of certain villages). This lump sum was then distributed over three soils, sub-divided again into wet and dry. The distribution was regulated by the known relative fertility of the soils. There were three classes of villages, and for each class rent-rates were separately calculated by this method. The khalsa incidence on cultivation was 11 annas 7 pie per acre. The assessment was supposed to be a little below half assets.

G. O., paras. 4, 5, 6.

G. O., para. 9.

The settlement was zamindari. In 1830 an attempt had been made to confer proprietary rights upon the cultivators, but they were not appreciated, and in 1845 settlement was made with the 'thekadars,' who were in fact the zamindars, subordinate proprietary rights being offered to cultivators settled before 1830. These rights were accepted in six villages only out of 170. The present tenures are zamindari and pattidari in the lower Dun, and bhayachara chiefly in the hills, where the villages "are cultivated by a numerous "community of zamindars, all enjoying "separate and independent proprietary "right, but at the same time all bound "together by joint responsibility for the "whole revenue assessed on the mahal."

Board's paras. 5—7.

One-third of the settlement cultivated area was irrigated. The irrigated area had increased by 73 per cent., and Rs. 4,747 of the new assessments are ascribed to canals. The settlement is a very light one, and has been sanctioned for 20 years only, expiring on the 30th June 1886.

Government review, para. 7.

Government review, para. 6.

Government review, para. 10.

Jaunsâr Bâwar was settled between 1871 and 1874 at Rs. 26,181, instead of Rs. 19,695, at a cost of Rs. 40,078. It is a small mountain tract, dissimilar to the rest of the province in its revenue characteristics. The settlement here runs till 1884.

Rent-rates used in the Dun were as follow :

		Maximum.			Minimum.		
		Rs.	As.	P.	Rs.	As.	P.
Homestead	Wet ...	3	8	0	2	8	0
	Dry ...	2	0	0	1	4	0
Loam ...	Wet ...	2	4	0	1	8	0
	Dry ...	1	4	0	0	14	6
Sand ...	Wet ...	1	4	0	1	0	0
	Dry ...	0	12	0		...	

Subsequent figures are as follows (including Jaunsâr Bâwar) :

Years.	Land revenue collections. Rs.
1874-75	63,084
1875-76	63,266
1876-77	63,192
1877-78	63,154

Revenue-roll of 1st October 1878, Rs. 63,422.

Administration Report, 1878-79.

The present irrigation percentage is 44, of which two-sevenths are due to canals.

KUMAUN.

Area ... ... 6,000 *sq. miles.*

Population ... 432,888.

REVISION of settlement was completed in about ten years, beginning with December 1863. It was done by the district officer, with the following results: Board's paras. 3, 16, 17.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,27,109	2,30,628	1,03,519	81·43	3,24,538*

* Rs. 3,58,639 by revenue and settlement progress reports of 1871-72 to 1873-74.

The new assessment is very light, averaging only 12 annas per cultivated acre. The Commissioner, who has governed Kumaun 30 years, notes that "a man "would probably pay the whole of his "quota of revenue by carrying a load from "Almora to Nynee Tal and back."

In making the settlement, a revenue-rate of a rupee an acre was adopted at starting, but assessment was in fact made empirically, with regard to village circumstances, one of the principal of which was population.

The Board have recommended confirmation of settlement for 30 years, beginning 1st July 1868.

GARHWAL.

Area ... ... 5,500 *sq. miles.*
Population ... 310,282.

G. O., paras. 2, 3.

SETTLEMENT operations were conducted by the district officer, and lasted from 1856 to 1864. The results were—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
69,274	96,311	27,037	39	74,005

Report, paras. 16, 17, 19.

The district had greatly improved since the settlement of 1840. Assessments were made village by village on local knowledge, with a considerable regard to population, as also to local opinion. Average rates were assumed (Rs. 2 on wet land, Rs. 1-5-4 on 1st class, and Re. 1 on 2nd class dry land, per acre), but were treated as mere approximations. The general incidence on cultivation was Re. 0-12-9 per acre. The settlement is for the most part with cultivating proprietors, under whom are (1) tenants at fixed rates, with hereditary and mortgageable, but not transferable, rights; and (2) tenants-at-will.

Pages 57, 59.

The settlement is for 30 years, ending with 1890.

Subsequent figures are shown below:

Years.	Land revenue collections. Rs.
1867-68	95,601
1868-69	94,723
1869-70	95,488
1870-71	95,482
1871-72	93,629
1872-73	94,315
1873-74	95,111
1874-75	94,714
1875-76	95,314
1876-77	94,779
1877-78	90,576

R. D'R.—Home, Rev. & Agri. Dept. Press—No. 595—9-3-80—300.

AGRA.*

Area ... 1,897 *sq. miles.*
Population ... 1,094,184.

SETTLEMENT operations began on the 1st September 1872, and closed on the 31st March 1880, having thus lasted seven and a half years. The staff consisted, during that time, of a settlement officer with one most of covenanted and two native assistant settlement officers. Report, para. 3. Report, para. 4.

The result has been as follows: Report, paras. 154, 161, &c.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
16,29,344	18,06,060	1,76,716	11	7,06,951

The process of assessment commenced with the determination of pargana rates, which were arrived at after inspection of every village in each pargana. The lands of each village were marked off by the settlement officer into blocks of an uniform character. The classification of the lands was three-fold, having reference—(1) to natural soils; (2) to the supply of manure; and (3) to irrigation. Report, paras. 127—163.

(1) The natural soils were twelve in number, of which three were clays, two loams, two sandy soils, two stony soils and three alluvial soils. Para. 128, &c.

(2) The division based on accessibility to manure gave three classes— Para. 135.

(*a*) *gonda*, home lands, wet manured;

(*b*) *manjha*, middle lands, partly manured; and

(*c*) *barha*, outlands, unmanured.

The effect of irrigation and manure was to eliminate the variation due to the natural soils. For this reason the *gonda* and *manjha* were only divided into irrigated and dry lands. The *barha*, however, was further divided into classes composed of the different natural soils.

The rent-rates prevalent for the various classes were ascertained by verbal inquiry from the people and from the village record. The prevalent rates formed the basis of the pargana rates to be assumed for the calculation of the letting value of the different kinds of land. In applying the 'assumed rates' in the case of each individual village, allowance was made for any exceptional characteristics in its soil or situation, the condition of the proprietary and cultivating bodies, and its past fiscal history. Paras. 147, 148, 149. Para. 150.

* This note has been contributed by the kindness of the Settlement Officer of Agra (Mr. H. F. Evans).

Paras. 138, 141, 143.

The general result of these rates was as follows :

Class of soil.	Average rent-rate per acre. Irrigated.	Dry.	Total.
	Rs. As. P.	Rs. As. P.	Rs. As. P.
Gonda ...	8 0 0	5 4 0	7 12 0
Manjha ...	6 6 0	4 12 0	6 2 0
Barha ...	5 0 0	3 1 0	4 0 0
Total area ...	5 12 3	3 4 4	4 7 10

Para. 151.

The rental of the revenue-paying area of the district, calculated at these rates, was Rs. 36,11,612.

The revenue assessed was Rs. 18,06,060, almost exactly 50 per cent.

The incidence of the revenue on the whole district, with its maximum and minimum in individual parganas, was as follows :

Para. 155.

	Over total area.	On culturable area.	On cultivated area.
	Rs. As. P.	Rs. As. P.	Rs. As. P.
District average	1 9 1	1 14 8	2 3 11
Maximum ...	1 15 7	2 4 9	2 9 5
Minimum ...	1 2 4	1 10 5	1 14 8

Para. 38.

The tenures met with are—

	Mahals.
Zamindari	875
Perfect pattidari	69
Imperfect do.	759
Total ...	1,703

Para. 86.

Of the whole cultivated area, 56 per cent. is irrigated: the proportions varying between a maximum of 84·7 per cent. in Ferozabad to a minimum of 39·7 in Khairagarh.

Para. 93.

Proprietors cultivate	...	23½ per cent.
Occupancy-tenants	...	52 do.
Tenants-at-will	...	22½ do.
Rent-free holders	...	2 do.

Para. 156.

The revised demand came into effect in different years for the different parganas from 1877-78 to 1879-80.

Para. 160.

Engagements were taken for 30 years, so that the term of settlement will expire in 1908 to 1910 A. D.

Note.—The district of Agra was re-constituted during the currency of settlement operations. These remarks apply to the district as is existed at their commencement, and up till 1st April 1874.

HAMIRPUR.*

Area	...	2,296 *sq. miles.*
Population	...	5,27,540.

SETTLEMENT operations, viz., demarcation of boundaries and preliminary work, began on the 20th September 1872 and the 11th January 1874, respectively. The measurement was effected by the professional Revenue Survey, which remained at work from 1872-73 to 1878-79.

The settlement has been effected by a covenanted settlement officer with the help of a covenanted assistant, and, for most of the time, of a native Deputy Collector.

The financial result is—

Old assessment.	† New final.	Difference.	Percentage.	Cost.	
				Settlement.	Survey.
Rs. As.	Rs.	Rs.		Rs.	Rs.
10,81,190 6	10,71,667	9,523	0·9	5,21,397	3,27,457

The assessment is mainly based on soil-rates ascertained for each kind of soil in each village, the rates actually used by the settlement officer for valuation purposes in general differing little from those recorded as actually paid.

The corrected rent-roll of each village has also been considered.

The pargana-rates are merely an average of the individual village rates, and were only used as a check on the latter and for reporting general results.

Crop-rates were not used except for sugarcane in a small part of the district.

In assessing, the officers concerned of course regarded not only rates and figures, but the whole history and circumstances of each estate. Mr. Smith adds—"I "certainly never went on the plan of "first applying a pargana average rate and "then modifying the result so far as ne-"cessary. I always assessed each estate "separately, and then, more as a matter of "curiosity than anything else, compared "the result with that obtained by apply-"ing pargana average rates. Mr. Neale's "procedure was much the same."

† PROGRESSIVE JAMAS.

	Rs.
1879-80	10,58,332
1880-81	10,63,397
1881-82	10,66,777
1882-83	10,67,787
1883-84	10,69,307
1884-85	10,69,837
1885-86	10,70,367
1886-87	10,71,037
1887-88	10,71,207
1888-89	10,71,377
1889-90	10,71,447
1890-91	10,71,517
1891-92	10,71,667

* Contributed by the kindness of the settlement officer of Hamirpur (Mr. V. A. Smith).

The incidence of the new assessments per acre of cultivation is as follows :

Pargana.	Per cultivated acre in year of survey.			Per acre of cultivation in 1877-78.		
	Rs.	As.	P.	Rs.	As.	P.
Hamirpur	1	13	4	1	14	2
Sumerpur	1	13	11	1	8	11
Mandha	1	10	4	1	8	2
Jalalpur	1	9	3	1	8	5
Rath	1	10	11	1	7	9
Panwari Jaitpur ...	1	6	1	1	5	1
Mahoba	1	1	4	1	5	2
	1	8	7	1	4	9

The new assessments are 54·1 per cent. of the corrected rent-roll.

Irrigated area was ... 1·7 per cent.

Culturable waste { Old 20·2 / New 14·0 } do. assessable. area.

Tenures were as follows :

	Number of estates.
Single zamindari	205
Joint do.	352
Imperfect pattidari	393
Perfect do.	35
Bhayachara	192

The settlement report was sent to press on the 27th of April 1880, but has not yet been reviewed.

The assessments have all received the provisional sanction of the Board of Revenue, but the final sanction of Government has not yet been accorded. Government has announced that the term of the settlement will be twenty years, but no orders have yet been received as to the exact date from which this term shall run. The new assessments have come into force at different dates in different parganas.

Rent-rates are shewn below :

	Maximum.				Minimum.		
	Rs.	As.	P.		Rs.	As.	P.
Black cotton soil { I.	4	12	5	to	2	14	3
Black cotton soil { II.	3	10	10	„	2	8	0
Loam with sand ...	3	13	3	„	1	12	7
Black soil with gravel ...	2	8	8	„	1	10	11
Poor gravelly soil ...	1	11	4	„	1	0	3
Alluvial	7	10	2	„	3	12	10
Garden land	6	7	3	„	5	14	6

MORADABAD.*

Area ... 2,279 *sq. miles.*
Population ... 1,096,063.

SETTLEMENT work began in October 1872 and will last till November 1880, a period of eight years.

Assessments were finished by June 1879, except Kasbah Moradabad.

There was a settlement officer with a European assistant and three uncovenanted Deputy Collectors during the greater part of the time.

The financial results are—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,02,092	†14,49,333	—2,47,241	17	8,92,559
Deduct for Kasihpur and Court-fees income ...				83,927
		NET COST ...		8,08,632

† This is according to the present year 1287 F., and may be slightly altered by changes made on appeal or by progressive jamas coming into force hereafter.

Reckoning from the dates on which the new assessments came into force the settlement should expire in 1905 to 1909 A. D.

The revised assessments fall at Rs. 1-13-1 per cultivated acre.

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* Contributed by the kindness of the settlement officer of Moradabad (Mr. E. B. Alexander).

BANDA (INCOMPLETE).*

Area (with Karwi) ... 2,961 *sq. miles.*
Population (ditto) ... 697,684.

BOUNDARIES were demarcated in 1873-74, and the cadastral survey, beginning in the following year, was finished by the end of 1878 in the principal division of the district, but in the Karwi sub-division, where it began later, not till the end of 1879. The first assessments were declared in 1878. No part of the Karwi sub-division has been assessed yet, and only two parganas in Banda Proper. Financial results (for Banda Proper only) appear as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,64,756	3,80,265	—84,491	18·2	6,39,415

But the expenses include costs of survey for the entire district, Karwi included. In explanation of the decrease of revenue it may be remarked that the district, like the rest of Bundelkhand, is a poor one, and has suffered from a series of seasons of insufficient rainfall.

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* Compiled from the Settlement Progress Reports of 1873-74 to 1878-79.

OUDH.*

PROVINCIAL SUMMARY.

Former Settlements.

OUDH was summarily settled† immediately after annexation, and again after the mutiny. Regular settlement operations began in 1860, and have just been brought to completion.

Taluqdari Tenures.

The most important difference between Oudh and the North-Western Provinces, as regards land tenures, is the prevalence of taluqdari tenures in the former province. From one-half to three-fourths of the revenue of the different districts of Oudh is paid by taluqdars, holding, for the most part, very large estates. These estates owe their origin to various causes. Many of them were acquired during the troubled reign of the last King of Oudh, when every taluqdar had his fort and his band of armed retainers, and many village communities found it to their advantage to put themselves under the protection of their powerful and unscrupulous neighbour. The summary settlement was nevertheless made on the principle accepted in the North-Western Provinces, *viz.*, that of setting aside the taluqdar and engaging direct with the proprietary body of the village. But a change of policy followed the re-occupation of Oudh after the mutiny. It had been found that on the outbreak of rebellion many village communities, who under the summary settlement had been recognized as independent land-holders, immediately joined the taluqdar, their former liege lord; and as the people had thus shewn practically that they acknowledged the position of the taluqdars, it was determined to recognise the rights and status of the taluqdars as proprietors of the land. Accordingly, at the second summary settlement, the taluqdars were allowed to engage for all the villages which formed part of their estates at the

Administration Report of 1872-73, pages 10, 11, 14.

* For a great part of the following account of land tenures and mode of assessment in Oudh, and also for the paragraphs on patwaris' papers, I have to express my obligations to Major G. E. Erskine, Revenue Secretary to the Chief Commissioner of Oudh.

† The main distinction between a summary and a regular settlement is supposed to be the absence of a record of rights in the former, and the formation of a record of rights in the latter. But the process of assessment is a much more rough and ready one in a summary than in a regular settlement; and summary assessments are intended to stand the trial of only a few years, by way of a makeshift.

annexation of the province; and the regular settlement has been made on similar principles. Most of the taluqdars have adopted the law of primogeniture; and they also enjoy the privilege (subject to certain conditions) of bequeathing the whole or any part of their estates by will.

Under-proprietors.

In subordination to the taluqdars, are under-proprietors, tenants with rights of occupancy, and tenants-at-will. The rights of under-proprietors are heritable and transferable. Under-proprietors are of two kinds—they are either the descendants of the former proprietors, who have, in the course of time, been more or less displaced in the enjoyment of the full proprietary right by the taluqdar; or their tenures were granted or conveyed to them or their ancestors by the taluqdar. Those under-proprietors whose rights rest on a former proprietary basis have been secured, according to what was in their possession at annexation or during a period of twelve years before that event, in either a sub-settlement of their estates at a rent payable to the taluqdar, and equal to the Government revenue *plus* a fixed percentage (varying from 10 to 50 per cent.) on that revenue; or in the enjoyment of their sîr lands at the same favourable rent as they had hitherto been liable for. The rents of under-proprietors of the second kind (*i. e.*, holders of land granted for religious uses, and such like) have been fixed with reference to the terms of the grants or conveyances under which they hold. All under-proprietary rents, whether in respect of sub-settlements, or of the more petty tenures, have been fixed for the term of the settlement.

Zamindari Tenures.

The land tenures of the zamindari portion of Oudh, *i. e.*, that part which is not held by taluqdars, differ in no essential respect from those which prevail in the North-Western Provinces.

Tenants.

Tenants with rights of occupancy are comparatively few in number. No right of occupancy accrues in Oudh, as in the North-Western Provinces, merely by prescription; the only tenants of this class are those long dispossessed ex-proprietors who failed to secure any under-proprietary rights, either by sub-settlement or in the shape of sîr. The great body of the tenants are tenants-at-will.

Settlement Law.

The present settlements have been made mainly on the authority of circular orders* approved by the Government of India, and considered to have the force of law under the Indian Councils Act.

* Record-of-Rights Circular, dated 29th January 1861.
Assessment Circular, dated 22nd July 1861.

They are mahalwar settlements at half assets. The existing law regarding Oudh Settlements is Act XVII. of 1876, but it was not passed till settlement work had been virtually concluded. Touching the respective rights of taluqdar and under-proprietor, the Act prescribes that the settlement of a taluqdari mahal shall be made with the taluqdar, and that of other mahals with the proprietor of the mahal; or if in any such mahal there are two classes of proprietors, superior and inferior, with either of such classes as the Chief Commissioner directs. When the taluqdar is entitled to settlement, but refuses to engage, the mahal may be farmed to the inferior proprietor, the taluqdar receiving an allowance out of the profits, not exceeding the share of the gross assets, if any, to which he would have been entitled had he accepted settlement. In all other cases, the person excluded, whether taluqdar or proprietor, is entitled to the same allowances and rental privileges as in the North-Western Provinces.

Act XVII. of 1876, Sections 25—39.

Record-of-Rights.

The record of rights prepared in the Oudh settlements differed in one material respect from that made by settlement officers in the North-Western Provinces. In the latter province, disputed rights are decided, for the purposes of the record, on the basis of possession merely, and claimants not in possession are referred to the civil court. But in Oudh, during the progress of settlement work in a district, the ordinary civil courts were debarred from entertaining any claims relating to land or rights connected with land. All such claims were heard and determined by the settlement officer and his assistants, he himself having unlimited original jurisdiction, as well as the powers of a court of appeal and revision. Thus, in all cases of dispute the entry in the record of rights represented a regular judicial decision, not a summary proceeding on the basis of possession, liable to be altered by the decision of the civil court on the question of right. This conjunction of judicial and executive duties of course increased both the work and the responsibility of the Oudh settlement officer. The subsequent maintenance of the record of rights is provided for in the same manner as in the North-Western Provinces.

Administration Report of 1872-73, page 21.

Act XVII. of 1876, Chapter IV.

Field Survey and Revenue Survey.

The field survey in Oudh was executed by amins. It included the classification of soils, subject to the usual testing by the settlement officer and his assistants. Side

by side with the field survey, or preceding it, was the Revenue Survey, carried on in the same manner as in the old settlement of the North-Western Provinces, and with the same ends in view. As compared with the field survey, the Revenue Survey "was more scientific and "accurate with regard to total areas, but "the field survey was practically that "upon which the settlement of the pro-"vince has been based". The cost of the Revenue Survey has not been reckoned as a part of settlement expenses. If the general consensus of settlement officers carries any weight, certainly the *whole* of the cost ought not to be so reckoned.* As a check upon total areas, the Revenue Survey was no doubt useful. The date and cost of the Revenue Survey in each district are shewn in the subjoined table.

Administration Report of 1872-73, page 18.

Year.	District.	Sq. miles.	Cost.
			Rs.
1859-62	Partabgarh	1,848	82,556
1860-62	Unao	1,369	59,220
1861-63	Lucknow	1,417	45,345
	Rai Bareli	1,381	40,322
1862-64	Bara Banki	1,296	43,398
	Sultanpur	1,575	45,670
1862-65	Fyzabad	2,413	1,08,802
1863-65	Sitapur	2,240	85,473
1863-66	Hardoi	2,293	88,652
1865-69	Kheri	2,992	1,60,532
1865-70	Bahraich	2,693	1,52,259
1867-71	Gonda	3,014	1,85,066
	Total		10,97,295

The differences between the field survey and the Revenue Survey areas of whole villages were as follows:

District.	Percentage.	District.	Percentage.
Bahraich	1·02	Sitapur	0·5
Partabgarh	0·6	Bara Banki	3
Rai Bareli	0·6	Kheri	1·5
Sultanpur	0·2	Gonda	2
Lucknow	1·06		

* Neither in the North-Western Provinces nor in Oudh have settlement officers shewn themselves eager to acknowledge the assistance derived from the Revenue Survey. The settlement officer of Sitapur writes—"Although the settle-"ment officer found the Revenue Survey maps of assistance in "checking the boundaries of his villages, they afforded him no "aid whatsoever in the work of assessment. It is true they "profess to shew the culturable areas in each village, but the "settlement officer could not be bound by those areas, and it "cannot but be felt that the cost of preparing these elaborate "maps has been out of all proportion to their utility." "I quite agree," says the settlement officer of Bahraich, "with "other settlement officers who have expressed their opinion 'that the interior survey by the professional staff is quite un-"necessary.....The elaborate and costly maps on the scale "of 4 inches to the mile, which are supplied by the Revenue "Surveyor, are well nigh useless for revenue purposes." The settlement officer of Partabgarh "will not say that the "Revenue Survey maps are absolutely and entirely useless to a "settlement officer", for he has referred to them occasionally, but he "can safely say that they can be dispensed with with-out the smallest fear of inconvenience". The settlement officer of Rai Bareli is of opinion "that the maps on the scale of 4 inches to the mile are a useless expense". Other opinions could be quoted to the same effect.

In culturable and cultivated areas, taken separately, the differences were much greater; but here the causes were changes in cultivation and various estimates of the arable qualities of land.

Method of Assessment.

None of the Oudh settlements was made by the district staff. The general instructions to the settlement officer did not differ greatly from those in force in the North-Western Provinces. But there was a very material difference in the method of assessment. There is no instance in Oudh of the primitive plan of assessing the pargana or the circle in the lump, and then working back and distributing the lump assessment over the villages. Except in Partabgarh, circle or pargana rent-rates of some sort were framed by the settlement officer after personal enquiry; but this enquiry was too often more summary than it should have been. In some districts, as in Rai Bareli, the circle or pargana rent-rates were from the first virtually disregarded, and the settlement was made village by village, on the strength, mainly, of the rent-rolls; in others, the result of applying the rent-rates was compared with the rental ascertainable from the rent-roll, and the assumed assets of each village, which formed the basis of the revenue demand, were arrived at on a consideration of these data. In several districts (notably Hardoi, Kheri, Fyzabad, and Gonda) where this last method was adopted, the assessments first introduced were found in many cases to be unsuitable; the reason for this generally was that too much reliance had been placed on the results by circle or pargana rent-rates, and, in the revisions which were undertaken, the rent-rolls formed the main basis of the assessment. In short, the rent-rolls were one of the principal data of assessment everywhere, while in certain districts the village assessment was determined almost exclusively by them. In preparing the rent-rolls for this purpose, it was necessary to place a fair rental value upon (1) lands cultivated by the proprietors (called *sir*), (2) privileged holdings, (3) lands held rent-free, and also to make some appraisement of the culturable waste. The village rent-rates used in these valuations were obtained by an elaborate analysis of the rents actually paid in the village by the several classes of cultivators on the several classes of soil. These latter were usually homestead, middle and outlying, natural distinctions of soil being observed only in the outlying lands.

Use made of the Rent-rolls.

Thus the peculiarity of the Oudh settlement, as distinguished from that of the North-Western Provinces, is that the revenue, generally speaking, has been assessed upon the individual rental of each village, with little reference to average rates expressing the level of rents over large tracts of country. The prevalence of taluqdari tenures, and the fact that the great mass of the cultivation is in the hands of tenants-at-will, were circumstances peculiarly favourable to such a method of assessment. In the best cultivated parts of the province, the rents imposed by the taluqdars represented with sufficient accuracy what the land could fairly bear. The areas held by proprietors as sîr, and by under-proprietors and others at favourable rents or rent-free, were small as compared with the lands for which tenants-at-will paid full rents; and the rent-rolls were well-kept and trustworthy documents on the whole. In the north of the province, where cultivation was comparatively recent, and rents are not uncommonly taken in kind, the analysis of rent-rolls had to be supplemented by estimates of the value of grain-rents. If grain-rents were the exception, villages paying in kind could be assessed by applying the rent-rates found to exist in similar cash-paying villages. Where grain-rents were the rule, the landlord's share of the grain, as shown in the village accounts for a series of years, was turned into money at the harvest prices, and the equivalent cash-rents thus obtained were applied to the sîr and privileged holdings; produce-estimates were also applied to the different classes of soil, and the assessments were arrived at partly from these and partly from general considerations.

Duration of Settlement Operations.

Settlement operations began in the first district (Partabgarh) in October 1860. They were finished in the last district (Fyzabad) in September 1878. Thus the settlement of the province occupied 18 years. The ordinary duration of settlement operations in a district was nine or ten years; two districts (Bahraich and Gonda) were finished in less than seven years; in one (Unao) the work was prolonged through nearly 17 years, but was cheaply done; while Kheri, Hardoi, and Fyzabad had their original settlements completed in seven, five, and ten years respectively, but subsequent revision and reduction of assessments lasted six or eight years more.

Financial Results.

The financial results for the province are as follows :

District.	Years of settlement.	Old assessment.	New assessment.*	Difference.	Per-centage.	Cost.
		Rs.	Rs.	Rs.		Rs.
Partabgarh ...	1860-1871	8,61,197	11,77,189	3,15,992	36	5,03,512
Bara Banki ...	1861-1870	8,42,618	11,97,398	3,54,780	42	2,86,941
Rai Bareli ...	1862-1872	8,24,041	10,27,094	2,03,053	25	4,83,216
Lucknow ...	1862-1871	9,55,600	11,58,555	2,02,955	21·23	5,19,373
Sultanpur ...	1863-1872	8,20,598	10,99,111	2,78,513	32·5	4,54,717
Sitapur ...	1862-1872	9,39,897	13,03,694	3,63,797	38	5,90,116
Bahraich ...	1865-1872	5,64,720	11,47,220	5,82,500	103	3,82,266
Kheri ...	1867-1878	4,91,922	8,02,411	3,10,489	73	6,85,757
Gonda ...	1868-1877	9,62,401	15,04,952	5,42,551	54·3	7,88,575
Unao ...	1860-1877	10,38,611	10,62,992	24,381	2·34	2,52,864
Hardoi ...	1863-1875	10,16,712	13,30,139	3,13,427	31	4,30,003
Fyzabad ...	1860-1878	12,08,550	16,11,059	4,02,509	33·3	8,77,168
Total ...		1,05,26,867	1,44,21,814	38,94,947	37	62,54,508

Thus the return on outlay is nearly 62·3 per cent., and the settlement will more than repay its expenses in two years. But if the cost of the Revenue Survey, Rs. 10,97,295, be added in, the return on outlay falls to 53 per cent.

Again, the new assessments are progressive where they involve an enhancement exceeding 25 per cent. Thus the immediate gain will be less than the table shews. If the present revenue demand (1880-81) be taken as 140 lakhs, the return on expenses (less survey) would be 55½ per cent.; or 47 per cent. if the Revenue Survey be reckoned in. It may also be noted that the Lucknow assessments shewn in the table have since been reduced by Rs. 15,720.

Relative cost of district settlements.

The Kheri settlement was that of greatest relative cost, 85 per cent. on one year's revised revenue; but the large increase will repay the cost in less than three years. Unao was the most cheaply settled, with expenses amounting to one-fourth only of the revenue secured; in Bara Banki and Bahraich the ratio is one-third; in Sitapur between one-third and one-half; while in the remaining six districts settlement expenses were equal to about one-half of the revenue secured. For the whole province, the percentage of settlement expenses on revised revenue is 43·4.

Revenue increase in districts.

The Unao district presents a contrast to the rest of the province in shewing a revenue increase of 2·34 per cent. only, while the provincial average is 37 per cent., and the average of all districts except Unao is nearly 41 per cent. In Bahraich

* Exclusive of cesses amounting to 4½ per cent. on the land revenue.

the revenue was more than doubled; in Kheri the increase was 73 per cent.; in Gonda 54·3 per cent. In these three districts, the revenue increase is largely to be ascribed to the extension of cultivation. They form the northernmost division of the province, reaching up to the Nepaul frontier; and the area under the plough has been considerably increased by the reclamation of waste lands in the sub-Himalayan tracts. For the rest of Oudh, the explanation lies in the inadequacy of the assessments imposed by the summary settlements, made hastily upon imperfect data immediately after the annexation of the province. In this respect the experience of Oudh was the reverse of that of the Punjab and the Central Provinces. The first assessments under British rule were very moderate; and prices did not fall, but rose considerably, in the interval between the summary and the regular settlements.

Rent-rates.

Rent-rates, though little used in assessment, may be quoted as showing the rental valuation of classes of soil. They are given for nine districts only, and in six of these the soil-classification divides lands into homestead and outlying, the latter being sometimes sub-divided into natural soils (loam, clay, and sand). The Bara Banki classification of lands into irrigated, without distinction of soil, and unirrigated, with distinction of soil, practically amounts to the same thing. In Sultanpur and Gonda no distinction of irrigation has been made, but of course the highest rates apply to wet lands, and the lowest to dry. The difference in rental value between wet and dry lands is much less marked than in the North-Western Provinces, varying only from 14 to 50 per cent. on the dry rent-rates.

Rent-rates for irrigated lands.

District.	Homestead.		Clay.		Loam.		Sand.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
Lucknow ...	9 7 0	7 5 0	9 10 0	5 0 0	8 5 0	4 6 0	4 10 0	3 2 0
Sitapur	7 0 0	6 0 0	Rs. 5 to Rs. 4.				3 8 0	3 0 0
Kheri	6 0 0	3 13 0	Rs. 4 13 10 to Rs. 3 9 7				3 9 7	1 9 7
Gonda	8 2 0	.....	Rs. 4 13 0 to Rs. 2 13 0					
Rai Bareli ...	8 14 0	5 3 0	Rs. 7 3 0 „ 3 6 0					
Bara Banki ...	No such class		Rs. 12 0 0 „ 4 0 0					
Sultanpur ...	9 9 7	.....	Maximum Rs. 5.					

Rent-rates for unirrigated lands.

Lucknow ...	8 2 0	4 14 9	6 1 0	2 13 0	4 11 0	3 13 0	4 4 0	2 2 0
Sitapur	4 8 0	4 4 0	Rs. 3 8 0 to Rs. 2 0 0				2 4 0	1 0 0
Kheri	.....	.....	Rs. 3 9 7 „ 1 6 9				2 6 5	0 12 10
Gonda	.....	4 0 0	Rs. 2 13 0 to Rs. 0 13 0					
Rai Bareli ...	7 13 0	4 11 0	6 0 0 „ 2 2 0					
...	.....	6 6 5	Maximum Rs. 0 12 9					

Other kinds of soil-classification.

	PARTABGARH. (Wet and dry.)	BAHRAICH. Wet.		BAHRAICH. Dry.		BARA BANKI. Dry only.	
	Average per acre.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
First-class soil	6 6 5	8 12 11	4 8 0	8 0 0	4 0 0	12 0 0	8 0 0
Second-class soil	4 12 10	6 6 5	3 4 0	4 12 0	2 12 0	6 0 0	2 0 0
Third-class soil	3 3 1	3 8 0	2 0 0	2 12 0	1 8 0	1 0 0	1 0 0

These rent-rates are considerably lower than those used in the North-Western Provinces, whether on homestead or other lands, both irrigated and unirrigated.

Incidence of revenue demand on rentals.

A natural consequence of the method of assessment was a light revenue incidence on rentals. The rent-roll, after correction for sîr and privileged holdings, was the first guide to the assessment of the estate, and any modification of the revenue demand at half assets, in deference to village circumstances, would generally be in the direction of reduction. In five* of the ten districts for which statistics are given, the assessment of taluqdari estates, paying from one-half to three-fourths of the entire revenue of the district, is either below the half-assets ratio, or only just above it. In one of these districts (Rai Bareli) the actual assets of eleven estates under Government management in 1871 were found to bear to the revenue demand the proportion of 100 to 45. In Lucknow and Bahraich the revenue demand of the district was only 49 and 46½ per cent., respectively, of the estimated assets at the time of settlement. In Gonda, Unao, and Partabgarh the revenue incidence on estimated assets did not exceed 53 per cent. Every enhancement of rents subsequent to settlement tends of course to diminish these proportions.

* Bara Banki. | Sultanpur.
Rai Bareli. | Sitapur.
Kheri.

Incidence on value of gross produce.

The ratio of the revenue demand to the value of gross produce is variously estimated as below :

District.	Percentage.	District.	Percentage.
Lucknow ...	21·3	Sultanpur ...	25 to 16·6
Partabgarh ...	20	Rai Bareli ...	25 to 12·5
Sitapur ...	20	Gonda ...	15
Bahraich ...	18·5	Kheri ...	13·5
Bara Banki	18·2		

There is reason to believe that all these estimates are a good deal too high.

Incidence per acre.

The revenue incidence of the new assessments per cultivated acre at the time of settlement is shown in the following table. The third column shows the present incidence per cultivated acre, and the fourth the incidence per assessable acre, *i. e.*, per

acre of arable land, whether cultivated or waste.

District.	Revenue incidence per cultivated acre.						Revenue incidence per assessable acre.		
	At settlement.			Now.			Now.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Partabgarh	2	3	3	2	3	4	1	10	10
Bara Banki	2	3	10	2	3	8	1	12	9
Rai Bareli	2	6	4	2	5	5	1	9	4
Lucknow	2	7	0	2	5	9	1	11	8
Sultanpur	2	2	9	2	1	2	1	8	5
Sitapur ...	1	7	3	1	6	8	1	1	3
Bahraich ...	1	5	11	1	3	4	0	11	11
Kheri ...	1	1	6	1	1	7	0	10	7
Gonda ...	1	6	11	1	7	0	1	0	1
Unao ...	2	6	7	2	5	6	1	10	1
Hardoi ...	Not shown			1	9	11	1	2	3
Fyzabad ...	ditto			1	14	8	1	7	10
Whole Province				1	12	1	1	3	9

Extension of cultivation.

Reconstitution of districts prevents exact comparison of the present revenue incidence per cultivated acre with that of settlement; but the general decrease of the rates proves that the area of cultivation has extended. This can be seen also by comparison of the average area of cultivation for the three years from the 1st October 1870 to the 30th September 1873, with the average area of cultivation for the three years ending 30th September 1878. The former average is 8,102,028 acres, the latter 8,283,998 acres. Thus the increase of cultivation has been 2·2 per cent. in a period of five years. But the new settlements have not been long enough in operation to make such calculations quite fair.

Facility of realising the revenue: Balances.

In reckoning the duration and cost of Oudh settlements, the revision work of 1874-1878 has in all cases been included. This work was rendered necessary partly by real over-assessment, but chiefly by the sudden and great increase of the land revenue demand even where the half assets standard was not exceeded. "In "some districts, notably Fyzabad, Gonda, "Kheri, and parts of Sultanpur, at a time "of supposed financial pressure, the revi- "sion of the assessment was hurried on, "and a greatly enhanced demand was im- "posed before the settlement officer had had "time to adjust the rights and liabilities "of the various sharers and under-pro- "prietors affected by this operation. It is "not difficult to understand that a course "such as this necessarily entails great hard- "ship on the persons directly responsible "for the Government revenue, and results "in their frequent default. They cannot "themselves meet the whole of the Gov- "ernment demand, and they are not in a

Administration Report of 1872-73, page 14.

"position to recover from their co-sharers "and subordinate holders their fair quota of "the increase, and the distress which must "result from the sudden imposition of a "largely enhanced, though otherwise fair, "demand, does not require demonstration. "A community who have been receiving a "rental of Rs. 1,200, paying Rs. 300 as "revenue to the Government, and living up "to the remaining Rs. 900, must suffer the "most serious inconvenience, if suddenly "called on to alter their whole way of life, "and at once curtail their expenses within "the Rs. 600 per annum which are left to "them on the making of a settlement at "half assets." Remissions were accordingly granted in 1873-74 and 1874-75 to the amount of Rs. 11,84,974. Afterwards, reductions of assessment were made in almost every district, the most notable being in Kheri, (Rs. 2,83,000), Gonda, Hardoi (Rs. 1,26,000), and Fyzabad (Rs. 1,11,000). These changes and their cost have been counted as part of the settlement. Beginning then with 1874-75, the statement of demand* and balance of each year stands as follows :

		Real balance of the year.							
Year.	Demand.	In train of liquidation.	Percentage.	Doubtful.	Percentage.	Irrecoverable.	Total percentage.	Nominal balance.	Total balance.
	Rs.	Rs.		Rs.		Rs.		Rs.	Rs.
1874-75 ...	1,38,97,247	3,02,097	2·18	2,01,238	1·45	80	3·63	690	5,04,105
1875-76 ...	1,38,16,404	1,11,081	0·80	12,360	0·09	195	0·89	6,543	1,30,179
1876-77 ...	1,38,13,091	1,32,131	0·96	12,534	0·09	63	1·05	55,724	2,00,452
1877-78 ...	1,38,17,391	4,56,783	3·30	.....	.....	35	3·30	1,60,637	6,17,455

But the first and last years of the series as they stand above furnish no fair test; for 1877-78 was a famine year, and in 1874-75 the revenues were still injuriously affected by the general unsettlement consequent upon the revision of the new assessments, and the 'doubtful' balance represents either assessments subsequently reduced, or adjustments of the revenue demand on account of losses by diluvion. The latter causes account also for the whole of the 'doubtful' balances of 1875-76 and 1876-77; so that the percentages of unrecovered arrears for the four years really are—

	Percentage.		Percentage.
1874-75 ...	2·18	1876-77 ...	0·96
1875-76 ...	0·18	1877-78 ...	3·30

* It will be observed that the demand of 1877-78 differs by six lakhs from the total of the new assessments shewn in the table on page 6. This is accounted for by (a) enhanced assessments amounting to Rs. 3,32,633 sanctioned in 1877-78, and borne first on the revenue-roll of 1878-79; (b) progressive jamas in all cases of previous enhancements exceeding 25 per cent.

The 'real balance' percentages are in fact somewhat larger than they are shewn, for they ought properly to be reckoned on the demand less nominal balance, not on the whole demand real and nominal together. But the difference is slight, except in the abnormal year 1877-78.

Besides the balances of the year's demand, there is a large annual balance outstanding on account of arrears of former years. It is shewn below:

	Rs.		Rs.
1874-75	... 6,67,866	1876-77	... 1,96,778
1875-76	... 7,01,297	1877-78	... 1,26,372

Most of the balances shewn against the two first years are old suspensions of revenue which ultimately became remissions by reduction of assessments.

Including collections of arrears, the realized revenue of 1876-77 amounted to Rs. 1,38,62,549, or somewhat more than the current demand of the year. Statistics for previous years are not forthcoming.

Coercive Processes.

A table of coercive processes is subjoined. As regards writs of demand, the same remark may be made here as in the case of the North-Western Provinces, but in Oudh matters are further complicated by the sub-settlements of taluqdari estates. It is obvious that the more numerous the grades of interest in the land, the greater difficulty there will ordinarily be in enforcing punctual payment.

Year.	Number of writs of demand.	Number of persons summoned to head quarters.	Number of persons confined in the civil jail.	Number of orders of distraint of personal property.	Number of sales of personal property.
1874-75	... 22,390	813	Not shewn	969	160
1875-76	... 22,467	1,439	142	1,362	198
1876-77	... 21,629	819	33	868	133
1877-78	... 23,177	455	127	904	131

For the amount of revenue on the rolls, the annual number of writs issued is somewhat less in Oudh than in the North-Western Provinces. Defaulters may be detained in custody 15 days, and then committed to the civil jail for six months, if the arrear, with costs, be not sooner paid. Major coercive processes are as follow:

Sections 114—116, Act XVII. of 1876.

Year.	Attachment or transfer.	Annulment of settlement.	Sale.
1874-75 ...	135	13	2
1875-76 ...	48	7	4
1876-77 ...	90	8	1
1877-78 ...	74	8	2

There is no limit to the term for which a mahal may be held under direct management, so long as the arrear of revenue remains unsettled. Transfer to co-sharers on account of arrears may be made absolute, on the application of the transferees after twelve years; but notification must first be made for one year, and the transfer becomes absolute only in default of payment within that period. Farm following annulment of settlement cannot be for a longer period than 15 years.

Sections 119—120.

Sections 121—122.

Section 125.

Settlement term: initial and ultimate dates of expiry.

The settlements are all for 30 years from the dates of declaration of the assessments; but their terms are considerably shorter if reckoned from the conclusion of settlement operations, *i. e.*, the completion of the record of rights, and, in the districts revised, of the revision to which the original assessments were subjected. Thus the Partabgarh settlement lasts for 25 years after completion of the record of rights; and the Unao settlement for 18 years only; while the Kheri, Gonda, Hardoi and Fyzabad settlements have only 22 to 24 years to run from the date of revision.

The first settlement to expire is that of parts of Unao and Partabgarh, in 1893, and the last will be that of one pargana of Gonda, in 1906.

Facility of future revision of settlement.

In Oudh the patwari is not the servant of the State, but the private servant of the landlord. This arrangement, permitted by the executive in earlier days as a concession to the taluqdars, has now received the sanction of the law. If the patwari fails in his duties, the landlord is primarily held responsible; and the district officer's control over the patwari is thus less direct and effectual than in the North-Western Provinces. Again, Oudh has been a comparatively short time under settled administration, and neither patwaris nor qanungos are so well trained as those in the sister province. They are not at present equal to keeping up an elaborate system of agricultural statistics, and the arrangements for their education are still in the first stages. Endeavour will be made to work towards the same goal as that aimed at the North-Western Provinces, but it is scarcely to be expected that at the next revision of settlements in Oudh it will be found possible to dispense with fresh survey and soil-classification.

Act XVII. of 1876, Chapter XII.

Rent courts exist, but the determination of rents is not a principal part of their duties, for most of the tenants are tenants-at-will, and their rents are a matter of agreement between themselves and their landlords.

Thus it would appear that no signal diminution of settlement expenses can be expected at the next revision, unless renewal of the village maps and of the record of rights is entirely forgone. It is at present premature to say whether such restriction of re-settlement operations will be possible. But, when the time comes for decision, it will doubtless be remembered that the great bulk of the

occupiers are merely tenants-at-will throughout Oudh. On the other hand, there ought to be a considerable increase of revenue. When the present settlements were made, the resources of the province were in a great measure undeveloped,* and there was a wide margin in most districts for the improvement and extension of cultivation, and for the rise of rents.

* There was no railway in Oudh till 1873.

OUDH.

PARTABGARH.

Area ... 1,458 *sq. miles.*
Population ... 784,156.

Paras. 422, 521, 517.

Review, para. 11.

SURVEY and assessment lasted from October 1860 to April 1863, but the record of rights was not completed till March 1871. Settlement operations thus lasted more than ten years. They were conducted by a Settlement Officer with a European assistant. The results were as follows:

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,61,197	11,77,189	3,15,992	36	5,03,512

Para. 516.—The cost is shewn as Rs. 4,20,051 in all the revenue reports from 1871-72 inclusive, but the figures in the text may be taken as correct.

The assessments were made village by village. Average rent-rates of Rs. 4, 3 and 2 per bigha were assumed for 1st, 2nd, and 3rd class land; but they were invariably modified to suit the village. No use was made of circles, the settlement officer believing that it was "useless "to make a coarse division when you "have a fine one (the village) ready made." The village rentals were determined on existing resources only, with little allowance for future development, as there was little room. The settlement officer, as a rule, accepted the rent-roll of each village as a correct record of the rents of the tenants, and his assessment consisted in the imposition on the lands held rent-free, or at favoured rates, of the rents which, with reference to the capabilities of those lands, his experience led him to consider as fair. The incidence of the assessments per cultivated acre was singularly uniform in all the nine parganas, varying only from Rs. 2-2-5 to Rs. 2-4-6. It was Rs. 2-3-3 per acre of cultivation throughout the district, and 20 per cent. on the estimated gross produce at settlement. It was 52·8 on the settlement rental of taluqas (paying three-fourths of the whole revenue of the district), and just 50 per cent. on the entire district rental by assumed rent-rates.

Paras. 437—442, 448.

Review, para. 11.

Statement V.

Statements V. (II.), V. (I.), VII.

Proprietary tenures, as determined at settlement, were as follows: Statement IV.

		Villages.
Taluqdari...	Sub-settled wholly ...	239
	In part	123
	Not sub-settled ...	1,417
Zamindari	... ...	373
Pattidari	... ...	292
Bhayachara	... ...	117
	Total ...	2,561

Where the sub-settlements were not merely of sîr land, the division of profits was approximately three-fifths to the sub-lessee, and two-fifths to the taluqdar; in the case of sîr, the proportions were about $\frac{7}{11}$ths and $\frac{4}{11}$ths. Commissioner's paras. 55, 56.

The assessment, "judged by a purely "arithmetical standard, is somewhat lower "than it should be," but the density of the population, the absence of manufactures, and the preponderance of taluqdari tenures justified it to the Government of India, by whom it has been sanctioned for 30 years. It expires in June and November 1893, and in June 1895 and 1896. Review, para. 12. Government of India, paras. 1, 9, 11.

Of the settlement cultivated area, 14·4 per cent. was tilled by proprietors and sub-proprietors, and 76 per cent. was irrigated; and 21½ per cent. of the assessable area was culturable waste. Statement V.

The rent-rates have been shewn above.

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 2-3-4.

NOTE.—There was a general re-constitution of Oudh districts in 1869, and comparison of post-settlement statistics is therefore impracticable. The old arrangement of districts was preserved in the revenue reports till 1874-75, and the report of that year agrees with the figures in this note as regards the old and new assessments of all the districts noted on, except Kheri, Bara Banki, and Sitapur, the former of which was still under revision, while the two latter districts received remissions to the extent of about Rs. 36,000 and Rs. 15,000 subsequently to the year in question. The total increase of revenue in the nine first districts of this Note is Rs. 29,009 in excess of the increase shewn against the same nine districts in the 1877-78 revenue report,—a difference probably due to the balance of territorial changes having been in favour of the three remaining districts of the province.

The total cost of settlement operations in the nine districts, as shewn in this Note, is Rs. 80,000 in excess of the total cost as shewn in the revenue reports. Partabgarh accounts for the difference. See marginal note above.

BARA BANKI.

Area ... 1,727 *sq. miles.*
Population ... 1,115,118.

Paras. 17—20, 148.

DEMARCATION began in November 1861 and was finished in March 1862. The khasra survey lasted from January 1863 to March 1865, being thus partly synchronous with the revenue survey from 1862 to 1864. Assessments seem to have been completed by the end of 1865, and settlement operations apparently came to a close towards the end of 1870,* after lasting nine years, but considerable revisions were made in 1874-75. The settlement was made by a Settlement Officer, with a European and a Native assistant. The results were as shewn below :

Para. 48.

* The report is dated 18th January 1871.

Statement II. Commissioner's para. 8. Review, para. 22.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,42,618	11,97,398	3,54,780	42	2,86,941

Report, para. 33.

Revenue-rates were got by a process which the assessing officer describes as follows: "I took the khasra into the "villages, and selecting fields at random, "noted the area and the rent paid; and "after repeating this process in several "villages, I prepared three sets of revenue "rates, to be applied to land irrigated from "wells, from tanks, unirrigated, matyar "soil, dumatt soil. I applied these rates "to 20 villages which I had assessed, and "after slight alterations, I found I had "three tables for testing the fairness of my "assessment according as the village was "a good, bad, or indifferent one." Several other tests were professedly employed, but the local Government remarks that "these tests played the smallest possible "part in the actual assessment ..... The "assessment was, in truth, an assessment "on rent-rolls, subjected on the whole to "only a vague and general kind of check." The rent-rolls bore a good character for "completeness and honesty."

Review, para. 21.

Statement VII. Commissioner's para. 15.

In the three tahsils of the district, as then constituted, the incidence of revenue per acre of cultivation was Rs. 2-10-7, Rs. 2-4-3, and Rs. 1-13-4 respectively; and for the whole district Rs. 2-3-10 on cultivated, and Rs. 1-14-4 on assessable area. The Government share fell at two-elevenths of the gross produce, but the latter was estimated low. In the taluqas, which pay more than half the revenue demand

of the district, the incidence upon settlement rental was Rs. 50·5 per cent.

Out of 850 taluqdari villages, sub-settlement of the whole, fractional parts, or separate holdings was made in 178. The remaining 745 villages of the district were settled as follows: Statement IV.

Zamindari	...	... 320
Pattidari	...	.. 419
Bhayachara	...	... 6

The sub-lessees generally share profits equally with the taluqdars. Commissioner's para. 21.

The assessments were regarded as fair half assets in two tahsils, and as lighter in the third, where, however, irrigation is inferior, and some difficulty has subsequently been experienced with the collections. The settlement is for 30 years from dates of announcement of the assessments. It expires between June 1895 and June 1898. Statement I. Review para. 26. Statement V.

Of the settlement cultivated area, 16·7 per cent. was tilled by proprietors, and 29 per cent. was irrigated; and 20 per cent. of the assessable area was culturable waste. Review, para. 24.

The maximum and minimum rent-rates (double the revenue rates) were— Appendix A.

		Maximum.			Minimum.		
		Rs.	As.	P.	Rs.	As.	P.
Irrigated	From wells...	12	0	0	8	0	0
	From tanks	10	0	0	4	0	0
Dry ...	Matyar ...	12	0	0	8	0	0
	Dumatt ...	6	0	0	2	0	0
	Bhur ...	1	0	0	1	0	0

Matyar, dumatt, and bhur are explained as meaning respectively rich soil, light soil, and inferior soil; which partly accounts for the extraordinary high valuation of dry matyar.

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 2-3-8.

RAI BARELI.

Area ... 1,752 *sq. miles.*
Population ... 988,719.

Paras. 3, 4.

DEMARCATION and some judicial work were done with the revenue survey from 1860 to October 1862; but no Settlement Officer was appointed till the end of the latter year. From that date settlement work went on under a Settlement Officer, with a European and a Native assistant, and was finished early in 1872, having lasted about ten years. The results were as follows:

Major Ouseley's para. 160.

Review, para. 2.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,24,041	10,27,094	2,03,053	25	4,83,216

Review, para. 12.

The assessment was made entirely upon rent-rolls, varied merely by "an adjust-"ment at the village inspection of the "rents paid on the privileged holdings of "the proprietors and high-caste tenants, "and an assessment of the rental due on "lands held rent-free, and on the cultivable "waste of the village. These rent assess-"ments were made on the basis of a most "laborious analysis of the actual rent-rates "of the several classes of cultivators in the "village in the several classes of soil..... "The result has been a village assessment "so pure that pargana rent-rates, although "compiled, were almost entirely discarded, "and the analogies of neighbouring lands "followed only for the assessment of the "sîr and rent-free lands in the bounds of "the same village." For instance, two contiguous and similar villages were assessed at 9 annas and 46 annas a bigha respectively, with regard to the habits of the cultivating community. The success of this plan in Rai Bareli is explained by the predominance of taluqdars, who had been able "to impose rents on a "naturally fertile district, which could "be paid, and were paid, in no other pro-"vince at the close of Native rule," and which were comparatively unaffected by sîr or privileged holdings.

Review, para. 24.

The incidence of the new assessments on the cultivated acre varied by parganas from Rs. 2-0-4 to Rs. 3-6-11, and was Rs. 2-6-4 for the whole district. Rental statistics are given for taluqdari estates alone. The revenue on these is three-fourths the total revenue of the district, and falls at 50·9 per cent. on rental. On

Statement V.

Statement VII.

Commissioner's para. 19.

Major MacAndrew's para. 151.

eleven taluqs under the Oudh Taluqdars' Relief Act in 1871, Rs. 1,65,064 of revenue represented only 44·9 per cent. of the assets. The settlement officer regarded from one-fourth to one-eighth of the gross produce as the fair Government share.

Tenures are shewn as follows:

		Villages.	
Taluqdari...	Sub-settled villages or portions	68½	Statement IV.
	Ditto holdings ...	8	
	Not sub-settled ...	960½	
Independent	Zamindari	263½	
	Pattidari	188½	
	Bhayachara	2	
	Total ...	1,491	

The sub-proprietors take half the profits. Para. 177 of Major Ouseley's report.

The proportion of irrigation to settlement cultivation was 42 per cent. Statement V.

Only 15 per cent. of the cultivated area was tilled by proprietors. Statement VI.

The culturable waste percentage was 38.

No explanation is given of the large increase of assessments. The settlement runs for 30 years, expiring between June 1895 and June 1899. Statement I. Review, para. 34. Major Ouseley's para. 3.

The rent-rates worked out, though not used in assessment, are subjoined for the sake of illustration. They relate to more than three-fourths of the district. Appendix K., page 52.

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Homestead	Wet ...	8 14 0	5 3 0
	Dry ...	7 13 0	4 11 0
Middle ...	Wet ...	7 3 0	4 6 0
	Dry ...	6 0 0	2 9 0
Outlying ...	Wet ...	5 11 0	3 6 0
	Dry ...	4 1 0	2 2 0

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 2-5-5.

LUCKNOW.

Area ... 976 *sq. miles.*
Population ... 778,195.

Pages 3, 17, 19, 20, 21, 159.

DEMARCATION began in February 1862, and the khasra survey was completed by the end of the cold season of 1863-64. Assessments went on from the winter of 1864-65 to that of 1867-68, and the record of rights was not completed till about April 1871,* when settlement operations had lasted a little more than nine years. They were conducted by a Settlement Officer, with, for the most part, a European and two Native assistants. The results were as follows :

* The report is dated 24th April 1871.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,55,600	11,58,555	2,02,956	21·23	5,19,373†

Page 159. Statement V.

		Rs.
† District	... ...	5,19,373
City	... ...	14,870
Total	...	5,34,243

Rent-rates in one pargana were obtained by personal experience, were applied to the classified areas of village soils, and the result, which is described as a rough average, was tested by former rent-rolls and by the qanungo's corrected rent-roll, as also by comparison with other villages of the circle. For the rest of the district, which was assessed by another officer, they were got as follows : The village land was divided into homestead (*goind*) and outlying, the latter into three classes of soil (loam, clay, and sand), and these four sub-divisions into irrigated and unirrigated. Holdings were then divided into sîr and privileged, rent-free and tenure-at-will. The average rates on the latter for each class of soil were taken as the average village rates, and when applied to other two classes of holdings, gave the rent-roll at average village rates. Average pargana rates were got from the village rates by addition and division. A third check was the rent-roll obtained by applying average resident cultivators' rates to the sîr, and average non-resident cultivators' rates (which were lower) to the rent-free lands (which were poorer, being service jagirs). Lands paying in kind were apparently treated with the same rates as cash-rent lands. The local Government doubted the accuracy of the soil statistics. "An "elaborate system of checks and aids was "constructed ; but they were inaccurately "compiled ; they were no real guide to "assessment ; they were put aside when-"ever they came in collision with the

Pages 6—7. Pages 10—15.

Review, para. 13.

" settlement officer's conclusions from per-
" sonal inspection of a village; and the prac-
" tical result is to leave the Government as
" entirely without check on the judgment
" of the assessor in the cash-rented as in
" the grain-rented lands."

The ultimate incidence of the revenue on the cultivated acre varied by parganas from Rs. 2 to Rs. 2-13-0; in four-elevenths of the district it was Rs. 2-12-0, in the rest Rs. 2-3-6, and for the whole district it was Rs. 2-7-0. The assessments were reckoned by the local Government as half a lakh less than half assets, or 48·9 per cent. on assets, and by the settlement officer as 21·3 per cent. on the gross produce of the district.

Review, para. 14.

Statement V.

Statement XII.

Tenures are shewn as follows:

Statement IV.

		No. of villages.
Taluqdari...	Sub-settled villages or fractions	51
	Ditto holdings ...	102
	Not sub-settled ...	222
Independent	Zamindari	683
	Pattidari	404
	Bhayachara	17

The proportion of profits paid by the under-proprietors is not stated.

Page 93.

The culturable waste was 27·6 per cent. of the assessable area, and was assessed at four annas the acre in one pargana only, the rest being exempted by the density of the population. The proportion of the cultivated area irrigated at settlement was 56·47, and the proportion tilled by proprietors was 12·3 per cent.

Statement V.

The settlement runs 30 years, expiring in June 1896, 1897 and 1898.

Review, para. 8.
Pages 17—21.

The following were the maximum and minimum rent-rates:

		Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Homestead ...	Wet ...	9	7	0	7	5	0
	Dry ...	8	2	0	4	14	9
Loam (*dumatt*)	Wet ...	8	5	0	4	6	0
	Dry ...	4	11	0	3	12	0
Clay (*matyar*)	Wet ...	9	10	0	5	0	0
	Dry ...	6	1	0	2	12	0
Sand (*bhur*) ...	Wet ...	4	10	0	3	2	0
	Dry ...	4	4	0	2	2	0

The high rates for *matyar* obtained in a small area in one pargana only.

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 2-5-9.

SULTANPUR.

Area ... 1,700 *sq. miles.*
Population ... 1,000,336.

Paras. 518, 519.

SETTLEMENT operations began in February 1863, were carried on by the District Officer till September 1863, and thenceforward by a Settlement Officer, and were concluded, apparently, towards the close of 1872,* after a duration of nearly nine years. A European assistant worked from the beginning till 1869, and a Native assistant through the whole course of operations. The results were the following:

* The Settlement Report is undated. It was received in the Commissioner's Office on the 17th March 1873.

Review, paras. 20, 26.

Para. 461.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,20,598	10,99,111	2,78,513	32½	4,54,757

Akbar's settlement of the district is estimated at Rs. 14,09,112, and that of the Oudh kings at Rs. 12,99,932, but the areas varied. The Akbari revenue rate per cultivated acre is estimated at Rs. 2-0-4.

Paras. 436—440.

Circle rent-rates were got by local inquiry. They related to three classes of land—homestead (*goind*), and one-crop and two-crop outlying land; in two of the three tahsils the outlying lands were also divided into irrigated and unirrigated. The rent-rolls, though trustworthy enough, were too full of sîr and privileged rents to be accepted implicitly as a guide; but, corrected by the rent-rates, they formed the basis of assessment. The local Government describes the process as follows: "The "system pursued in the assessment was "the not uncommon one in Oudh of a "compromise between rent-rates and rent-"rolls. ... (Soil) areas were tested, and the "rent-rates applied. If the resulting assets "corresponded with the admitted rent-roll, "the rent-roll was accepted, and the assess-"ment made on it. If the rent-roll assets "were not equal to the rent-rate assets, the "rent-roll was so far revised that average "rates were put upon all sîr and rent-free "land. 'The settlement officer then* dealt "'with the mean or not, as the nature of his "'notes might be, and took that as the basis "'of assessment.' Such was roughly and "generally the method of assessment."

Review, para. 13.

* Commissioner's para. 20.

The revenue incidence per acre was very uniform, falling in one pargana only to Rs. 1-15-5, and rising in two to Rs. 2-6-3; the district average was Rs. 2-2-9 per cultivated acre. The Government demand

Page 221.
Statement VII.

fell on the estimated settlement rental at 50·7 per cent. On the rental of taluqas, paying three-fifths of the revenue of the district, it was 48 per cent. As rents in kind vary from half to one-third of the gross produce, this ratio would represent a Government share of a quarter to one-sixth on other than cash-paying lands.

Page XL. This apparently includes muafi, &c., lands. Para. 428.

Tenures are shewn as follows :

		No. of villages.
Taluqdari...	Sub-settled, entire, or in part	128½
	Ditto in holdings ...	46
	Not sub-settled ...	848
Independent	Zamindari	232
	Pattidari	476½
	Bhayachara	182
	Total ...	1,913

Statement IV.

In the 128½ sub-settled mahals, or fractions of mahals, profits are divided equally (on the whole) between the taluqdars and the sub-proprietors.

Para. 494.

The assessment was considered a fair one at half assets. It stands for 30 years, expiring between June 1895 and June 1900.

Review, paras. 21—23, 27. The Commissioner (para. 28) thought the Government had not got 50 per cent., but had got all that could wisely be taken.
Para. 470.

The increase of revenue is attributed to under-assessment in the summary settlements, explained by insufficiency of data and the necessity for haste. In 291 villages the summary assessments were reduced.

Para. 458.

Nearly 80 per cent. of the cultivated area was irrigated. The percentage of proprietors' cultivation was 16½, and of culturable waste 33½.

Statement V.

The maximum and minimum rent-rates per acre were—

	Maximum. Rs.	As	P.	Minimum. Rs.	As.	P.
Homestead ...	9	9	7	6	6	5
Two-crop lands	5	0	0	3	3	2
Single-crop lands	4	0	0	0	12	9

Para. 442. Commissioner's para. 18.

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 2-1-2.

SITAPUR.

Area ... 2,205 *sq. miles.*
Population ... 932,959.

Pages 164, 232—233.
Review, para. 1.

SETTLEMENT operations began in the winter of 1862, were conducted by a Settlement Officer, with a European and a Native assistant, and lasted till February 1872, or about nine years and three months. The results were as follows :

Review, para. 40.—In Statement V. the new revenue demand is shewn as Rs. 13,18,056, but reductions to the extent of Rs. 14,362 had to be made subsequently. See paras. 24 and 25 of Review.

Statement II.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,39,897	13,03,694	3,63,797	38	5,90,116

Rent-rates were got in various ways by the different assessing officers :

Review, paras. 15, 20, 21, 24, 25, 28—36.

Paras. 169, 189.

(1.) An all-round rent-rate of Rs. 6 on irrigated and Rs. 4 on unirrigated land was assumed, "more on the settlement "officer's own knowledge and that of "others, than on any appeal to figures;" and villages were assessed up to this maximum as far as individual circumstances seemed to warrant. The assessing officer says he "abandoned all nice "calculations as wholly useless, and ad-"hered to round sums as far as possible." Subsequently the assessments had to be revised, and a reduction of 6¼ per cent. was made in the three parganas.

(2.) Villages were classed in two or more classes, and soils divided into irrigated and unirrigated, the latter being sub-divided into good, middling, and poor. These classes practically corresponded to loam and clay (classed together) and sand. Rent and revenue rates then were got from 'general information,' or from 'the 'papers of the year of survey.' In four parganas the assessments thus formed subsequently had to be reduced by 1·5, 7, 9 and 12 per cent. respectively.

Page 155.
Page 157.

(3.) Villages were arranged in three classes according to quality, and lands in three classes according to distance from the village, and also as they were wet or dry. Rent-rates for cash-paying lands (mostly *goind*) were compiled from rents actually paid (excluding rents of garden plots). For lands paying in kind, measurements of outturn were converted into cash at average harvest prices of five years preceding. Tentative rates, falling as low as half rates, were applied to the third or most distant class of lands. The resulting jama was corrected by village circumstances. These assessments "have "never been complained of."

The general result of these variously-made assessments was a revenue-rate per acre of cultivation ranging from Rs. 1-15-4 to Re. 0-14-10 by parganas, from Rs. 1-10-7 to Rs. 1-4-8 by tahsils, and falling at Rs. 1-7-3 per acre on the entire cultivated area of the district. There are no figures from which the incidence of the revenue on either assets or gross produce can be calculated, but two of the assessing officers assumed the Government share of the latter at one-fifth; and in the taluqas (paying half the revenue assessed on the district) the percentage on settlement rental was only 48·2.

Statement V.

Pages 165—189.

Statement VII.

Tenures are shewn as follows:

		No. of villages.
Taluqdari	Sub-settled villages or fractions	43
	Ditto holdings ...	146
	Not sub-settled	894
Independent	Zamindari	1,226
	Pattidari	350
	Bhayachara	59

Statement IV.

"Speaking generally, no under-proprie-"tor pays for his tenure more than 75 or "less than 60 per cent. of the estimated "gross rental," *i. e.*, the taluqdar's *malikana* varies from 10 to 25 per cent. on the jama.

Page 224.

The inadequacy of the summary assessments is the only reason given of the large increase of revenue, ranging from 20 to 81 per cent. by parganas. The Commissioner and the Government thought the assessments, as finally fixed, moderate, if not light. They are for 30 years, and expire on various dates between 1896 and 1901.

Commissioner's para. 62.

Page 142. Review, para. 44.

The percentage of irrigation on settlement cultivation was 17; the percentage of proprietary tillage upon cultivation was 11·4; and the culturable waste percentage was 26.

Statement V.

The maximum and minimum rent-rates obtained by processes (2) and (3) above were as follows:

		Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
(2) Irrigated	...	6	0	0	4	0	0
Loam and clay	...	3	8	0	2	0	0
Sand ...	...	2	0	0	1	8	0
(3) Homestead...	Wet ...	7	0	0	6	0	0
	Dry ...	4	8	0	4	0	0
Middle (*manjha*)	Wet ...	5	0	0	4	0	0
	Dry ...	3	8	0	2	8	0
Sand (*bhur*) ...	Wet ...	3	8	0	3	0	0
	Dry ...	2	4	0	1	0	0

Paras. 226, 303.

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 1-6-8.

BAHRAICH.

Area ... 2,645 *sq. miles.*
Population ... 774,477.

Pages 184, 185. Review, para. 1.

SETTLEMENT operations began in October 1865 and lasted till 1872, or about 6¾ years. They were conducted by a Settlement Officer, with a Native assistant, and with a European assistant also from April 1867 to May 1870. The results were as shewn below:

Review, para. 26.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,64,720	11,47,220	5,82,500	103	3,82,266

Page 173.
Review, para. 2.

Gonda and Bahraich together were supposed to pay 11½ lakhs in 1845: in 1848 six lakhs were with difficulty realized, chiefly from Gonda.

Pages 157—164.

Circle rent-rates for cash-paying lands were got by striking the circle average upon the village soil-rates as ascertained by local inquiry. For lands rented in kind, the average annual outturn was estimated for each kind of crop within a unit area of 100 bighas of each class of soil; one five-hundredth part of this gave the revenue-rate per bigha of that class of soil. The resulting assessments were checked by the rent-roll, after the latter had been converted into cash and corrected for sîr lands, &c.; and also by produce estimates educed by experiment and enquiry, and applied to actual cultivation, so as to give the value of the gross produce of each village, one-fifth to one-sixth of which was taken as the Government share. A plough jama was also devised, but was of little practical use.

Statement V. Review, para. 25.

The incidence of revenue on the cultivated acre varied by parganas from Rs. 1-11-10 to Re. 0-11-7, and by tahsils from Rs. 1-9-2 to Rs. 1-3-0. For the whole district it was Rs. 1-5-11. This includes a rate on culturable land at five annas per acre in the southern portion of the district, and about two and a half annas per acre in the northern and more backward portion.

Statements IX. and X.

The revenue demand was 46·6 per cent. of the estimated settlement rental. In six of the eight parganas it represented 18½ per cent. of the value of the gross produce.

Tenures are shewn below: Statement IV.

		No. of villages.
Taluqdari ...	Sub-settled villages or parts	68½
	Ditto holdings ...	176
	Not sub-settled ...	1,515½
Independent	Zamindari	226
	Pattidari	24
	Bhayachara	251

The terms given to the sub-proprietors were— Page 114.

In 18 villages ...	Rental at 10 per cent. over Government revenue.
In 42½ ditto ...	10 to 20 ditto.
8 ditto ...	Above 20 ditto.

The large increase of assessments was due to the extraordinary progress made by the district since the summary settlement. Cultivation increased 64 per cent., generally, and as much as 185 per cent. in the northern or sub-Himalayan portion of the district. The settlement is for 30 years, expiring between June 1897 and June 1901. Review, paras. 2, 26, 28. Page 132.

Only 5·15 per cent. of the cultivated area was irrigated at settlement. The reasons were (1) plentiful waste lands and (2) rents in kind. Pages 145, 146.

The percentage of proprietary tillage was 3·1 only, and of culturable waste 38. Statement V.

Maximum and minimum rent-rates were— Appendix V.

		Maximum. Rs. A. P.	Minimum. Rs. A. P.
First class soil	Wet ...	8 12 11	4 8 0
	Dry ...	8 0 0	4 0 0
Second do.	Wet ...	6 6 5	3 4 0
	Dry ...	4 12 0	2 12 0
Third do.	Wet ...	3 8 0	2 0 0
	Dry ...	2 12 0	1 8 0

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 1-3-4.

KHERI—(NOT REVIEWED).

Area ... 2,963 *sq. miles.*

Population ... 739,283.

Pages 1, 41, 131.

KHERI was 13 years under settlement. Demarcation began in 1865, assessments in the winter of 1867, lasting till March 1872, and subsequent operations lasted six years longer. All the work was done by a Settlement Officer, with a European assistant, besides Native assistants. The result was as follows:

Paras. 226, 231. The old and new jamas are somewhat differently shewn in Commissioner's para. 56.

Old revenue.	New revenue.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,91,922	8,02,411	3,10,489	73	6,85,757

Assessment processes varied according to the assessing officer—

(1.) In two cash-rented parganas the assessment was mainly mauzawar. Village lands were divided into circles, one called *khass* (roughly corresponding to *goind*) and the others *hárs*, and assets were calculated at recognized village rates for these classes, sîr and privileged tenures being brought up to full rates. The revenue demand was then fixed upon the assets, as modified by the assessing officer's experience. Revenue soil-rates were also worked out, but were not much relied on.

Paras. 98—104.

Paras. 110—120.

Commissioner's para. 20.

(2.) In five grain-rented parganas, estimates of average gross produce were similarly applied, village by village, to *khass* and *hár* lands, but with distinction of soils into rabi, dofasli, and kharif. One-half to (rarely) one-third of the result, converted into cash at three fixed prices for kharif, rabi, and dofasli produce of all sorts, represented the assets, whence the jama was deduced as in the case of cash-rented villages. The main basis of the assessment nevertheless seems to have been local considerations, for the assessing officer writes—"Having once "fixed my average total nikâsi in the "village, I did not allow myself to tamper "with the same, unless any grave error was "discovered. I regulated my soil-rates, "irrigated and unirrigated, so as not to "materially affect the result I had arrived "at."

Paras. 110, 118, 120.

(3.) In the remainder of the district the assessments declared in 1872 had to be revised. The process of revision lasted till 1878. It was conducted on no

Page 124.

uniform system, but on the whole the rent-rolls were the main guide.

Of the whole settlement the Commissioner says: "The great fundamental "principles upon which it has been made "are, that in the parganas with a fluctuating outturn, areas, rates and jamabandi "assets have all been derived from "averages of the actuals of a series of "years, and the result selected as the basis "of assessment is shewn as that of the "application of certain rates to the classified area of each village. In so much as "this has not been done, it was against my "will, and I am not responsible for it." — Commissioner's para. 57.

The revenue incidence per cultivated acre varied as follows: — Commissioner's para. 56.

	Rs. As. P.		Rs. As. P.
Four parganas ...	1 15 2	to	1 8 6
Five ditto ...	1 7 9	to	1 4 8
Seven ditto ...	1 1 1	to	0 13 6
Four ditto ...	0 12 5	to	0 9 9
District average ...	...		1 1 6

The incidence on total rental is not shewn; on the rental of the taluqas (which pay five-eighths of the revenue of the district) it was 48 per cent. On estimated gross outturn it was 13·5 per cent. — Statement VII. (Statement IX. is merely an application of settlement rent-rates.) — Statement X.

Tenures are shewn as follows:

		Number of villages.
Taluqdari ...	Sub-settled villages or parts	24
	Ditto holdings	232
	Not sub-settled	764
Independent	Zamindari	617
	Pattidari	49
	Bhayachara	20

— Statement IV.

Only 9·4 per cent. of the cultivated area was tilled by proprietors. — Statement V.

A little over 12 per cent. was irrigated.

Culturable waste was 42 per cent. of the assessable area.

Rent-rates are ascertainable for a few parganas only. They are abnormally low, as the revenue incidence would lead one to expect. — Paras. 210, 211, 219, 220, 222, 225.

	Maximum. Rs. As. P.	Minimum. Rs. As. P.
Garden lands ...	6 0 0	3 13 0
Irrigated loam and clay ...	4 12 10	2 9 7
Dry ditto ...	3 9 7	1 6 9
Irrigated sand ...	2 9 7	1 9 7
Dry ditto ...	2 6 5	0 12 10

As proposed for sanction, the settlement would expire in the several parganas between June 1898 and June 1902.

The incidence on cultivation throughout the district at present (1877-78) is Rs. 1-1-7.

GONDA (NOT REVIEWED).

Area ... 2,824 *sq. miles.*
Population ... 1,166,515.

Pages 119—121.

SETTLEMENT operations began on the 1st October 1868, and assessments were concluded in the cold season of 1872-73. Three successive years of distress necessitated revision, and this was begun in the cold season of 1873-74, and lasted till December 1874. Thus every part of the district was assessed twice, and as the final report was not submitted till November 1877, settlement operations lasted about nine years altogether. They were conducted by a Settlement Officer, with one European and two or more Native assistants. The result was as below:

Statement XI. Statement VI.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,62,401	15,04,952	5,42,551	54·3	7,88,575

Para. 209.

The revision of the first assessment was the real settlement of the district. It was made on three data—

(1) The corrected rent-roll.
(2) Conventional soil-rates.
(3) Crop-rates.

Paras. 210—212.

The first was the village rent-roll corrected for sîr and privileged tenures, and with cash rents, deduced from extensive analysis of rent-rolls, applied to the grain-rented lands.

Paras. 215—219.

The second consisted in the division of the village lands into homestead (*goind*), middle (*manjhâr*), and outlying (*pallu*), and the application of rates which were "collected, in the first "instance, by the amins, received the "criticism of the extra assistant commis-"sioners, and were finally sifted and cor-"rected, after most laborious and minute "inquiries, by the settlement officer."

Para. 225.

The third was got as follows: "The crops "were first divided into classes according "to the value of their produce. The value "of that portion of the produce which was "paid as rent was then assumed separately "for each kind of crop, and finally the "values so assumed were applied to the "areas occupied by the several classes of "crop."

Para. 219.

The assessment was practically made upon the corrected village rent-rolls. The soil-rate method "could not be compared

"for a moment with the authority of a "rent-roll whose substantial accuracy had "been proved to be above suspicion;" and the crop-rates "had little influence on "the assessment proposed." Para. 224.

The incidence of the new assessments on cultivation is as follows: Statement III.

Tahsils.	Per cultivated acre. Rs. As. P.
I.	1 12 4
II.	1 10 5
III.	1 6 10
IV.	1 1 6
Whole district	1 6 11

The incidence on the 'corrected' rent-roll was a fraction over 50 per cent.; on the rent-roll of the taluqas (paying $\frac{11}{15}$ths of the total revenue of the district) it was 53 per cent; on the estimated value of gross outturn it was 15 per cent. Para. 213. Statement VII. Statement III.

Tenures were as shewn below: Statement V.

		Number of villages.
Taluqdari ...	Sub-settled wholly or in part ...	112
	Ditto in holdings	250
	Not sub-settled ...	1,752
Independent	Zamindari ...	974
	Pattidari ...	419
	Bhayachara ...	29

The proportion of proprietary cultivation varied by parganas from 10 to 38 per cent., and was 13 per cent. for the district. Para. 202. Statement VI.

Nearly 20 per cent. of the settlement cultivated area was irrigated. Statement VI.

Culturable waste was 31 per cent. of the assessable area.

The maximum and minimum rent-rates were— Para. 222.

	Maximum. Rs. As. P.	Minimum. Rs. As. P.
Homestead ...	8 2 0	4 0 0
Middle ...	4 13 0	2 13 0
Outlying ...	2 13 0	0 13 0

The assessments expire in June 1895 and June 1896. Commissioner's paras. 1, 2.

The incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 1-7-0.

*UNAO—(REPORT NOT PUBLISHED).

Area ... 1,768 *sq. miles.*
Population ... 944,793.

SETTLEMENT operations began in October 1860, and lasted till June 1877, or 16¾ years. They were conducted by a Settlement Officer, with a Native assistant, and also with a European assistant and a second Native for part of the time. The results were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
10,38,611	10,62,992	24,381	2·34	2,52,864

The method of assessment was to obtain circle rent-rates by local inquiry, and to apply these to the areas of the various classes of soil in each village; to compare the results thus obtained with the ascertained rental of the village, after affixing suitable village rates to the sîr and rent-free lands; and finally, on a due consideration of these data, and after subjecting the village to close local inspection, to determine what might properly be considered the fair average gross rental, and to impose half of this as the Government demand. Rents had for many years been almost invariably paid in cash, the payment of rents in kind being of rare occurrence. Thus it was comparatively easy to arrive at a fair estimate of the gross rental of a village.

The result was an average revenue incidence of Rs. 2-6-7 per cultivated acre, and 52·4 per cent. on corrected rent-rolls.

Taluqdars held only 22 per cent. of the total number of mahals. For the rest, the most prevalent tenure was the zamindari, the next most frequent the pattidari, while the bhayachara was rarely found.

Nearly 50 per cent. of the cultivated area was irrigated. Culturable waste was 26 per cent. of the assessable area.

The settlement is for 30 years, and expires on dates between November 1892 and November 1895.

The revenue incidence on cultivation throughout the district, as at present constituted (1877-78), is Rs. 2-5-6.

* NOTE.—The notes upon Unao and the two following districts have been communicated by the courtesy of Major G. E. Erskine, Revenue Secretary to the Chief Commissioner of Oudh.

HARDOI—(REPORT NOT PUBLISHED).

Area ... 2,300 *sq. miles.*

Population ... 931,377.

MEASUREMENTS lasted from November 1863 to April 1867. Assessments were completed by the end of 1868, but they had subsequently to be revised and reduced by a lakh* and a quarter, and the revised assessments came into force in the revenue year 1875-76. Thus the entire duration of settlement operations was twelve years, exclusive of the completion of the records. The work was done by a Settlement Officer, with a European assistant, and revised by two officers (one a Native) on the staff of the district. The final results were—

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.	Rs.	Rs.
10,16,712	13,04,962	2,88,250	28·3	4,30,003
	rising to	rising to	rising to	
	13,30,139	3,13,427	31	

In the original assessment, pargana rates were used as a standard. In half the district, the only classification of soil was that of irrigated and unirrigated lands. For the remaining half, in addition to this, the description of soil was also taken into consideration. At revision, no standard pargana rates were used. The rent-rolls were carefully analyzed, the actual rents paid for each well-known description of soil by each class of tenant were classified, and rates deduced for the village,—the rates for any one class of soil and tenant being raised, where necessary, by inspection of the land, and by comparison with the other rates current in the village.

Reckoning from the dates of introduction of the original assessments, the settlement should expire in 1896-1898.

The settlement report has not yet been submitted, nor are the revised assessments on the revenue-roll.

		Rs.
* Original assessment	...	14,31,063
Revised ditto	...	13,04,962
Difference	...	1,26,101

FYZABAD (Report not published).

Area ... 1,688 *sq. miles.*

Population ... 1,024,092.

Settlement work began in 1860, and lasted till September 1878, or 18 years. Assessments were originally finished by March 1870, but had to be revised and reduced by more than a lakh.* There was a Settlement Officer, with a European assistant, during the whole or the greater part of the time. The final results were—

	Rs.
* Original assessment ...	17,22,363
Revised ditto ...	16,11,059
Difference ...	1,11,204

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,08,550	16,11,059	4,02,509	33·3	8,77,168

The original assessments seem to have been made village by village. The assessing officer says his procedure was "to "apply to the statistics recorded by the "amins, the most approved tests, the data "for which were obtained from the people "themselves; and finally to compare geo- "graphically the rate at which assessment "falls on a village, with the rates of those "bordering on it." Average produce estimates were framed, shewing the yield from the different description of soils, irrigated and unirrigated. Rent-roll and plough jamas were used as tests, and then, after fixing the assessment with regard to all the circumstances of the village, "the rent-rates were determined and "finally adopted".

Reckoning from the dates on which the original assessments came into force, the settlement should expire in 1895—1900.

Administration Report, 1878-79.

The revised assessments fall at Rs. 1-14-8 per cultivated acre in the district as at present constituted.

CENTRAL PROVINCES.

PROVINCIAL SUMMARY.

Former Settlements.

Administration Report of 1872-73, pages 15, 17.

THE Central Provinces are made up of t two territorial divisions formerly known the Nagpur province and the Sagar a Narbada districts. The latter were acquir by cession from the Mahrattas in 1818, a the former lapsed to British rule in 185 In 1861 they were constituted a sing province under a Chief Commissione The Sagar and Narbada districts we regularly settled for 20 years between 18 and 1837, but summary settlements f short terms continued to be the rule in t rest of the present province. General speaking, the revenue administration in t early days of British rule was not succes ful; the people were impoverished, progress was made, and, in spite of lar remissions, the assessments pressed heavi upon the land. This state of things w not altogether remedied by the regular 20-years settlement in part of the pr vince.

Settlement Law.

Revenue Department Proceedings, No. 9, November 1863.

The present is the first general settl ment of the Central Provinces. It h been made under the Regulations whi formed the old law of settlements in t North-Western Provinces, and under rul framed with the sanction of the Gover ment of India in 1863. It is a mauz war settlement at half assets, like th in the North-Western Provinces a Oudh. The field survey* was similar made by patwaris and amins with the pla table. The record of rights is substa tially the same, and settlement officers we empowered, as in Oudh, to try and deci disputes arising at the time of its p paration. Only the land tenures and t process of assessment require particul notice.

Administration Report of 1872-73, pages 24, 25.

Administration Report of 1861-62, paras. 175—178.

Land Tenures; the Patels.

Proprietary right in the land of t Central Provinces is a creation of t settlement. Originally, the patels gauntias or muqaddams (they were kno by various names) had been village hea men, occupying a privileged position virtue of collecting the revenue of th

* The field survey did not tally so exactly with the Reve Survey in the Central Provinces as in the North-West Provinces and Oudh. In 11 per cent. of the villages Bhandara there was a discrepancy of 5 per cent.; while i per cent. of the villages of Raipur the difference amounted 10 per cent., the reason being the excessive smallness of fields, involving the loss of fractional parts in combining th areas to form the settlement map. In Narsinghpur Nimar the difference was 3·4 and 3·2 per cent. But in Ho angabad it was 2·2 per cent. only, and in Chanda, Dumoh, Jubbulpore it fell to 1·4, 1, and ½ per cent.

Details of cost of the Revenue Survey will be found page 7.

villages for the Government.* Their relation to the rest of the agricultural population depended upon the history of the village. Where the patel brotherhood were descendants of the original founder of the village, "some man of "enterprise with a slender capital, who "took his dependants with him to reclaim "the waste," the constitution of the village more or less resembled the village community of the North-Western Provinces, and cultivators not belonging to the brotherhood were regarded as tenants. If the brotherhood had multiplied till they were very numerous, the title 'patel' would be applied only to the headman or headmen; but it conferred no right to exercise landlordship over lands held by the remainder of the brotherhood. Similar to this was the case (it was comparatively rare) of villages whose history, so far as it could be traced, shewed only a number of families settled down on terms of equality. But a notable change followed the introduction of Mahratta rule into the province of Nagpur. The patel was treated as a farmer of the revenue, having full power over the tenantry, whether outsiders or members of the original brotherhood, but liable to be displaced in favour of a new man if he failed to meet his revenue engagements. In the Sagar and Narbada territories a continuous state of war and confusion forced the cultivators into dependence upon men of comparative wealth and influence; and thus farmers and tenantry took the place of village communities, if the latter indeed ever existed. Finally, throughout both parts of the province, many of the revenue farmers were broken down by the severe assessments of the first summary settlements under British rule. Thus, when the regular settlement came to be made, the persons responsible for payment of the revenue (who in the Central Provinces are called *malguzars*) were by no means universally the descendants of the old patels, &c., but included many strangers among their number, some of them comparatively recent men, others mere temporary farmers of revenue. Settlement was made with those malguzars who appeared to have the best claim, actual or prescriptive; and a proprietary right in their villages was conferred upon them, including all recognised

The Malguzars.

* The original status of the gauntia exists in the Sambhalpur district, where proprietary rights as regards ryoti lands have not been conferred. In confirming the Nimar and Chanda settlements, the Government of India desired that the malguzars should be offered the option of reverting to their old position as patels and muqaddams, but the offer was accepted by nobody. The rights of tenants in these two districts were at the same time defined and protected. At present (April 1880) the landlord and tenant law of the whole province is under consideration, and will shortly be placed on a more satisfactory footing.

shareholders who did not exchange thei
coparcenary shares for individual ownershi
of the sîr land actually in their cultivatio
The tenure thus created is practically th
same as the zamindari tenure of the Nort
Western Provinces, whether pure zamin
dari, pattidari, or bhayachara. It is de
scribed as follows:—"The estate, whethe
"the property of one or many owners, i
"always managed by a single proprieto
"and the land is chiefly held by cultivator
"whose rents are thrown into a commo
"stock. The profits are divided, or th
"losses made up, with reference to the re
"spective shares of the different proprie
"tors. The ancient proprietary land held i
"cultivation by the owners themselve
"and known as 'sîr,' is either held an
"cultivated by the proprietors according t
"their shares, or else is cultivated in com
"mon. If any proprietor takes up extr
"land, he pays regular rent thereon, whic
"is thrown into the same stock with his cu
"tivators' rents. When disputes occur,
"regular division takes place, and the whol
"lands of the village come to be divided an
"held in severalty according to shares, th
"tenure becoming pattidari. When, how
"ever, a body of proprietors has gone so fa
"the tendency is to separate altogether, an
"by complete partition to constitute th
"several portions separate estates."

Administration Report of 1872-73, pages 22, 23.

The Plot-holders.

peculiarity of the Central Provinces settl
ments is the existence of subordinate pr
prietary rights in plots of land within vi
lages.* Such rights have been recognise
chiefly in favour of (1) shareholders wh
preferred to accept this equivalent for thei
proprietary shares; (2) former malguzar
not admitted to settlement; (3) farmers c
land revenue not admitted to settlement
(4) holders of resumed revenue-free land
These and other classes of plot-holde
pay the revenue assessed on their plo
through the managing malguzar, plus
percentage to cover cost and trouble o
collection.

The Zamindars.

The term 'zamindari tenure' in the Cen
tral Provinces is restricted to large estate
held by single proprietors, who have gene
rally been in possession for many genera
tions, and whose succession is governe
by the law of primogeniture, cadet
being entitled to maintenance, but no
to a share in the estate. The assessmen
of such estates partakes more or less o
the nature of a quit-rent. The absolut
proprietary right of the zamindar is rarel
limited by inferior proprietary right
recognised in the malguzars of singl

* These exist also in the North-Western Provinces an
Oudh, principally in cases of resumed revenue-free lands; bu
not to such a great extent as in the Central Provinces.

villages. Taluqdari or tahutdari estates differ from zamindaris chiefly in the greater prevalence of such sub-settlements, vesting the proprietary right in the malguzars, subject to the payment of revenue through the superior proprietor, with the addition of a 'malikana' or commission varying from 10 to 50 per cent.

Waste Lands.

Vast forests and wastes were previous to the settlement included in different mouzah or village areas. When proprietary right was conferred, the Government excluded great areas of forest and waste from the gifts of proprietary right. Each malguzar or proprietor was allowed to keep a part of his waste land, up to a possible limit of 200 acres of waste for every 100 acres of cultivation. The surplus waste was marked off as Government property, and was available for sale for separate clearance leases, or for management as Government forest. In this way many thousands of square miles of Government waste have been marked off, which yield already about eight lakhs of rupees of forest revenue annually. The realization of this revenue has been made possible by the settlement operations. The zamindars, as the term is defined in the next foregoing paragraph, were allowed to keep their excess waste, which was, however, assessed to tribute, separately from the cultivated land.

Method of assessment: Rent-rates.

The backwardness of cultivation, the large extent of waste land, and the generally inaccurate state of the village papers, made the determination of rent-rates an uncertain and difficult business. The rent-rolls were rarely satisfactory guides, and rates decided on after personal enquiry could only be approximate. In the majority of districts the plan followed was to use circle rent-rates and produce-estimates as a check upon each other. The former were got, for the different classes of soil, by analysis of the rent-rolls of the villages in the circle, by personal enquiry, returns of the rents paid in revenue-free estates, and, in the later settlements, by comparison of the rates already used elsewhere; with reference also, in most districts, to expected rise of rents after settlement. The produce estimates gave the outturn of each crop upon each kind of soil, the Government share being rarely above one-sixth. From these data the assessment was determined, with allowance for the circumstances and revenue history of the village, and for those other general considerations which universally guide the assessing officer.

Other methods.

To this method of procedure there were, however, some notable exceptions. The

district of Nimar was settled on the old plan of estimating a lump jama for the circle, and then distributing it over the villages, and correcting the result till it seemed satisfactory. In Seoni the assessments arrived at by the aid of rent-rates and produce estimates were checked by the general assumption that the circumstances of the district warranted a revenue enhancement of 50 per cent. In Raipur, Bilaspur, and Hoshangabad the first step was to calculate a fair average revenue-rate for the district, that is, an average rate of assessment per cultivated acre. This was done by noting the incidence of existing assessments, and making allowance for practicable rise of rents. Then the assessments were made with the help of soil-rates, *i. e.*, assumed rent-rates on the different classes of soil.

Duration of settlement operations.

Excluding work done before the mutiny, which in most cases had to be done over again, the settlement of the Central Provinces occupied ten and a half years, from July 1859 to the end of 1869. The ordinary duration of settlement operations in a district was five to seven years; but Nimar took only 3⅓ years to settle, while Seoni and Bhandara required more than eight, and Nagpur, Hoshangabad, Jubbulpore, and Sagar, nine or ten years. Considering the great size of the districts, compared with those in the North-Western Provinces and Oudh, the work was expeditiously done; but large areas are waste, requiring demarcation merely, and the process of assessment was less elaborate than in provinces of higher cultivation and more voluminous statistics. The financial results were as follows:

Financial results by the Settlement Reports.

District.	Years of settlement.	Old assessment.	New assessment.	Difference.	Percentage.	Cost.
		Rs.	Rs.	Rs.		Rs.
Upper Godavery	1863-67	18,810	31,952	13,142	70	53,500
Raipur ...	1862-69	4,09,959	6,58,718	2,48,759	60	3,23,000
Mandlah ...	1864-69	41,685	61,842	20,157	48·4	13,052
Bilaspur ...	1863-68	1,72,301	2,85,161	1,12,860	65	1,60,854
Nimar ...	1866-69	1,52,446	1,77,094	24,648	16	1,14,000
Wardá ...	1857-66	4,11,930	4,16,345	4,415	1·07	1,79,954
Jubbulpore ...	1855-67	5,25,469	5,69,443	43,974	8·4	3,50,000
Baitul ...	1855-64	1,38,853	1,83,764	44,911	38	1,39,893
Narsinghpur ...	1856-67	3,31,292	4,21,699	90,407	27·6	1,61,053
Hoshangabad ...	1855-66	3,09,905	4,23,851	1,13,946	37	2,48,446
Dumoh ...	1860-65	2,66,460	2,54,974	—11,486	4·4	1,58,000
Sagar ...	1854-67	5,20,895	4,29,672	—91,223	17·5	2,84,134
Seoni ...	1858-67	1,36,960	2,32,891	95,931	70	2,51,362
Bhandara ...	1858-67	4,35,779	5,32,357	96,578	22	2,96,500
Nagpur ...	1858-67	8,76,661	8,30,232	—46,429	5·3	4,04,730
Chhindwara ...	1862-67	2,45,353	2,22,922	—22,431	9	1,84,500
Chanda ...	1862-69	2,57,916	2,42,990	—14,926	5·79	2,25,464
TOTAL ...		52,52,674	59,75,907	+7,23,233	13·8	36,65,917

At this rate the settlement would repay its expenses in little more than five years. The revenue increase represents a return of 19·7 per cent. upon the outlay. The latter, as was inevitable in a comparatively poor province, is large in proportion to the revenue secured. Expenses actually exceed revised revenue in the Upper Godavery and Mandlah districts, where the revenue is very small, and in the district of Seoni, where it is more considerable; and they are almost equal to the revenue in Chanda. Narsinghpur and Warda are the cheapest-settled districts, with expenses falling at 39 and 43 per cent., respectively, upon the revenue secured; and in Raipur and Nagpur, also, the ratio has been kept below 50 per cent. But in the remaining districts this ratio has been considerably exceeded, and the cost-percentage for the entire province is nearly 61·4. In five districts* the result of settlement was a reduction of revenue by 4 to 17½ per cent. Three of these had never been regularly settled before, and the summary assessments used to be mitigated by annual remissions. The other two—Dumoh and Sagar—had been over-assessed in the regular settlement of 1834. In all the districts where the revenue demand was largely enhanced by settlement, the explanation is simply that the old assessments were inadequate. The fairness of the new assessments is proved by the ease with which they have continuously been realized. Two trifling exceptions may be noted. In Bhandara it was found necessary to reduce the assessments of 31 villages by Rs. 1,440, and in the Bijayraghugarh pargana of Jubbulpore the jama of 9 villages was reduced by Rs. 500. Both these changes were made after extensive and careful investigation into the assessment of the district and the pargana as a whole. The date in both cases was 1874-75.

Relative cost of settlement.

* Dumoh. | Sagar.
Nagpur. | Chhindwara.
Chanda.

Administration Report of 1874-75, pages 14—18.

Territorial changes since settlement prevent accurate comparison of annual realizations district by district. Besides transfers of territory to Holkar and to the Madras Presidency, and slight alterations in the boundaries of eleven districts, a new district (Balaghat) has been formed within the province. The Sambalpur district has also been brought under a twelve-years summary settlement concluded in 1876-77. It is a kind of compromise between a malguzari and a ryotwari settlement. The gauntia has proprietary right only in the lands of his home farm, with the privilege of holding a certain proportion of them revenue-free, equal in revenue-paying value to one-quarter of the entire village. In all the

Financial results tested by post-settlement revenue collections: changes in districts.

Administration Report, 1872-73, page 27.

Administration Reports of 1874-75 and 1876-77.

remaining lands of the village the r
are the tenants of the Government,
the gauntia, though he collects t
rents for the Government, can neither
crease the rents nor oust the ryots.
settlement increased the revenue of
third of the district by 36 per cent.,
of the rest by 42 per cent., and the
revenue demand is Rs. 1,15,774 altoget
Excluding Sambalpur, the average reve
collections of the five years ending
September 1878 have been Rs. 59,63,
This is Rs. 7,11,289 in excess of
revenue before settlement, and repres
a gain of 13·5 per cent., agreeing
closely with the result shown above
obtained from the district settlem
reports. In fact, the figures would t
almost exactly if they included the
venue of half the Upper Godavery dist
transferred to Madras in 1874-75.

The Revenue Survey.

Before leaving the subject of settlem
expenses and revenue increase, the cos
the Revenue Survey may be noticed.
amounts to Rs. 25,92,334, as detailed
the table below :

District.	Year.	Cost. Rs.	District.	Year.	C
Nagpur ...	1857-60	2,25,713	Dumoh ...	1863-66	1,(
Chanda ...	1864-75	4,46,079	Seoni ...	1865-69	1,(
Bhandara	1858-72	1,81,729	Narsinghpur	1861-63	(
Bilaspur ...	1872-74	77,379	Hoshangabad	1862-68	1,(
Raipur ...	1866-72	3,05,264	Nimar ...	1867-73	1,(
Jubbulpore	1854-67	2,19,017	Chhindwara	1868-72	1,(
Sagar ...	1854-64	1,74,364	Betul ...	1872-74	1,(

The relations between the Reve
Survey and the field survey have
abundantly discussed in the notes on C
and the North-Western Provinces. I
it may be added that in many parts of
Central Provinces the Revenue Su
was subsequent to assessment, and
could not well have been of use to
settlement officer in those parts. If
cost of the Revenue Survey be cou
with settlement expenses, the return
outlay will appear as 11½ per cent. onl

Rent-rates and soil-classes.

Rent-rates generally relate to
classes of soil. In five districts irrig
lands form a class by themselves,
rent-rates as follow :

	Maximum.			Minimum.		
	Rs.	As.	P.	Rs.	As.	P
Chanda ...	15	0	0	0	8	0
Baitul	1	8	0	1	0	8
Chhindwara ...	3	0	0	.....		
Upper Godavery	5	8	0	1	0	0
Raipur average rate	.....			1	0	0

In Dumoh and Sagar the division into wet and dry is maintained in each of the four soil-classes; while in Nimar the Bombay plan of a separate water-rate per acre has been adopted, varying from 2 to 3 rupees on well-lands, and from 2 to 4 rupees upon lands channel-watered from tanks. These rates, however, are only a way of exhibiting the distribution of the lump circle assessments. In the subjoined table of rent-rates no distinction has been made between irrigated and unirrigated land. As a rule, the best soils are irrigated, whether from wells or tanks, or by means of embankments built to retain rainfall or natural drainage. The maximum rates, except for the abovementioned districts, relate to lands enjoying one or other of these advantages, the minimum rates to dry lands. The soil classes are—1st, black soil; 2nd, lighter or gravelly black soil; 3rd, light shallow soil, more or less mixed with stones; 4th, sandy or stony soil of the poorest kind. No rent-rates are shewn for Seoni.

District.	Class of soil. I. Maximum.	I. Minimum.	II. Maximum.	II. Minimum.	III. Maximum.	III. Minimum.	IV. Maximum.	IV. Minimum.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Upper Godavery ...	1 12 0	1 0 0	1 4 0	0 8 0	0 12 0	0 6 0	0 10 0	0 3 0
Bilaspur ...	1 0 0	0 10 0	0 12 0	0 8 0	0 10 0	0 6 0	0 8 0	0 4 0
Nimar ...	5 0 0	1 0 0	3 8 0	0 10 0	2 10 0	0 6 0	0 14 0	0 3 0
Warda ...	2 0 0	0 7 2	1 8 0	0 4 10	1 0 0	0 3 7	0 8 0	0 2 5
Jubbulpore ...	3 0 0	0 7 0	2 8 0	0 4 0	2 0 0	0 2 0	0 8 0	0 1 0
Baitul ...	0 14 0	0 6 9	0 10 6	0 5 3	0 5 3	0 2 3	0 2 0	0 1 6
Narsinghpur ...	2 10 0	1 2 0	2 4 0	0 10 0	2 0 0	0 4 0	1 0 0	0 4 0
Dumoh ...	3 0 0	0 8 0	2 8 0	0 5 0	2 0 0	0 4 0	1 0 0	0 3 0
Sagar ...	2 4 0	0 8 0	2 0 0	0 6 0	1 4 0	0 7 0	0 10 0	0 2 0
Bhandara ...	1 12 0	1 0 0	1 2 0	0 10 0	0 12 0	0 6 0	0 6 0	0 4 0
Nagpur ...	5 0 0	0 6 0	3 8 0	0 4 0	2 8 0	0 4 0	1 8 0	0 2 0
Chhindwara ...	1 8 0	1 2 0	1 2 0	0 14 0	0 12 0	0 8 0	0 6 0	0 4 0
Chanda ...	2 4 0	0 6 0	2 0 0	0 4 0	1 2 0	0 3 0	0 8 0	0 2 0

	Rs. A.	Rs. A.	Rs. A.	Rs. A.
Raipur average rates ...	0 14	0 10	0 7	0 2
Hoshangabad do. ...	1 8	1 4	1 0	0 8
Mandlah do. ...	1 4 to 14 annas	0 10	0 6	0 3
Ramgarh do. ...	0 10	0 6	0 4	0 2

These rent-rates are far below those of the North-Western Provinces and Oudh, as the Central Provinces are a much poorer country than the Ganges valley. They are low even as compared with the rent-rates on similar soils in Bundelkhand.

Incidence of assessments on rental.

As a rule, allowance was made for expected rise of rents in estimating assets. In Nimar and Warda this was done by assessing at 60 per cent. instead of half assets merely; elsewhere the rent-rates were calculated on the anticipated level. The immediate results were assessments

considerably in excess of half assets, the latter by no means represented real letting value of land, and su quent enhancement of rents has red the ratio of revenue demand to rent- as in Seoni, where it fell from 70 t per cent. before settlement operations concluded, or Hoshangabad, where rent-rates gave an assessment equa 62½ per cent. of actual assets, but mately falling at 46½ per cent. onl

Incidence on value of gross produce.

the enhanced rent-rolls. The propo of revenue demand to value of g produce has been estimated in s districts only, as follows :

District.	Percentage.	District.	Percen
Raipur	... 4·4	Mandlah	... 5 to
Bilaspur	... 3·4	Nimar	... 6·25
Hoshangabad	3·6	Dumoh	... 17
Chhindwara	2·66		

The lowest estimates are probably ne the truth, for the assessments are kn to be very moderate on the w

Incidence per acre.

Their incidence per acre of cultivatio the time of settlement, compared with incidence per cultivated and arable now, is shewn in the following table :

District.	Average revenue rate per a: Cultivated at settlement.	Cultivated in 1878-79.	Ara 18
	As. P.	As. P.	A
Jubbulpore	... 10 3	11 6	
Narsinghpur	... 12 0	11 2	
Nagpur	... 13 4	11 2	
Dumoh	... 10 9	9 10	
Wardah	... 9 7	8 10	
Bhandara	... 8 5	8 10	
Sagar	... 11 2	8 4	
Nimar	... 10 0	8 0	
Hoshangabad	... 9 6	7 10	
Chhindwara	... 6 10	5 11	
Chanda	... 7 9	5 9	
Balaghat	... .	5 6	
Baitul	... 4 7	4 9	
Seoni	... 5 8	4 4	
Raipur	... 5 10	4 0	
Bilaspur	... 4 6	3 11	
Mandla	... 3 9 to 1 8	2 9	
Whole Provinces	.....	6 9	

Increase of cultivation.

The general reduction of the rev incidence since settlement points to a siderable increase of cultivation. In the sum of the areas under cultivati all the districts of the province (ex Sambalpur) in the years of settle is 11,978,013 acres, whereas in 187 the cultivated area, excluding Samba was 13,179,919 acres. The increase is of 10 per cent.

Facility of realising the revenue.

The revenue is easily collected. For the five years ending 30th September 1878, the balances on a revenue demand of 60 lakhs have been as follows:

Year.	Balance of the year.	Percentage on revenue demand.	Outstanding balances of former years.
	Rs.		Rs.
1873-74 ...	8,320	0·14	5,459
1874-75 ...	6,899	0·11	4,667
1875-76 ...	3,665	0·06	3,383
1876-77 ...	1,413	0·02	780
1877-78 ...	4,176	0·07	1,216

It should be noted, however, that the remissions made on current land revenue demand during these five years amounted to Rs. 11,744, that is, an average of Rs. 2,349 a year, or somewhat less than 0·04 per cent. on the revenue demand. The first and last years of the series were years of unfavourable rainfall and of general distress.

Coercive Processes.

Minor coercive processes are shewn in the following table. It will be observed that in most cases the summoning of the defaulter to head-quarters was sufficient to make him pay up, and similarly the knowledge that a writ of distraint was out against him produced the same effect, without the necessity of proceeding to imprisonment in the one case or sale in the other. There are parts of the province where it is a point of honour to wait to be processed before paying.

Revenue Reports of 1874-75, page 16; 1875-76, page 21; and 1877-78, page 13.

		Number of persons		Number of orders for distraint of personal property		
Year.	Number of writs of demand.	Summoned to head quarters.	Confined in civil jail.	Issued.	Executed.	Followed by sale.
1873-74 ...	3,066	121	Not shewn.	908	462	Not shewn.
1874-75 ...	3,988	104	2	1,542	114	16
1875-76 ...	3,112	66	15	1,007	65	9
1876-77 ...	3,568	116	28	728	50	8
1877-78 ...	3,083	68	5	843	30	3

The major coercive processes are few in number. Sale of an estate for arrears of revenue is almost unknown.

	Number of cases of		
Year.	Sequestrations and transfers.	Annulment of settlement.	Sale.
1873-74 ...	11	5	...
1874-75 ...	8	...	5
1875-76 ...	9	1	...
1876-77 ...	6	4	...
1877-78 ...	...	3	...

Settlement term: initial and ultimate dates of expiry.

Five* districts, and parts of two others, were settled for 20 years, and part of Chanda for 13 years only. Elsewhere the term is 30 years. The earliest settlements to expire are those of this part of

* Upper Godavery. | Raipur.
Mandlah. | Bilaspur.
Nimar. | Part of Chanda.
Part of Jubbulpore.

Chanda, and of part of Balaghat, in the present year (1880). The latest will be those of Sagar and parts of Hoshangabad and Chhindwara, which last till 1897.

Facility of future revision of settlement.

The probability seems to be that both a fresh survey and a new record of rights will be necessary at the next revision of settlement. Assuming that the maps and measurements of the Revenue Survey will be of assistance in determining village outlines and areas (though the boundaries must have changed considerably since the date of the earlier surveys, there will still be the necessity for an independent field survey. The state of the village papers is not at present satisfactory. Much remains to be done before they can be accepted as fairly accurate and trustworthy. Village accountants in the Central Provinces are for the most part paid by the malguzars, not from the Government treasury; their circles are inconveniently large; the country is often difficult and sparsely peopled; and education is comparatively backward. All these causes tend to prevent a high degree of correctness. Increased attention has been given to the subject of late years, and some improvement is already perceptible. But it would not be safe at present to reckon upon the village papers as a material aid towards diminishing the expenses of future settlements.

CENTRAL PROVINCES.

UPPER GODAVERY.

Area ... 1,085 *sq. miles.*

Population ... 52,120.

Report, paras. 165, 234

RESETTLEMENT began in June 1863 and ended in November 1867, having occupied nearly four and a half years. It was conducted by the Deputy Commissioner, without an assistant. The revenue demand was raised from Rs. 18,810 to Rs. 31,952; *i. e.*, by Rs. 13,142, or 70 per cent., at a cost of Rs. 53,500.

Para. 231.

Paras. 1, 163.

The only previous settlement was the summary settlement of 1861—the year following the cession by the Nizam of the taluqs constituting the district. It lasted five years.

To obtain rent-rates for cash-paying villages, the Settlement Officer "struck an "average of rentals for the past five years "for each circle, and calculated the rates "as they fell per acre. From these rates "(taking into consideration at the same "time the quality of the soil, the condition "of the people, &c.) he arrived at an "average rent-rate for each kind of soil in "each circle". The assumed rental was then got by applying the resulting average-rates to all the cultivated land of the village, including the holdings of proprietors and favoured tenants. The result was checked by plough-rates and produce-rates (the latter were the basis of calculation in grain-paying villages). The circle soil-rates ranged from two rupees to three annas, and the average rent-rate of the district was Rs. 1-8-1 per cultivated acre, giving a revenue acreage-rate of Re. 0-12-1, but the actual incidence proved to be only 11½ annas. The settlement was made at half assets, but the incidence of the assessments on estimated settlement assets was no less than 74¼ per cent. Delay in enhancement of rents accounted for the difference. The reasons given for the increase of revenue are extension of cultivation, rise of rents, and progress in material prosperity.

Appendix IX.

Para. 181. This accords with the figures in Appendix VI.

Paras. 183, 184.

Paras. 191—200.

The settlement was made with the descendants of the Sardeshmukhs who held four of the six taluqs, and with the 'zamindar' of the remaining two taluqs. In three of the former and one of the latter

taluqs, inferior proprietary rights, consisting of a percentage (20 to 40 per cent.) on the gross collections, or of a low quit-rent, were confirmed to the ancestral farmers of the taluqs. In two taluqs no such farmers existed. Inferior proprietary rights in *villages* throughout all the six taluqs were recognised in the case of (1) old rent-free or quit-rent grantees, (2) lessees who had sunk capital in the land, (3) founders of villages. Proprietorship in individual holdings was recognised under the usual conditions.

Only 4·6 per cent. of the cultivated area was tilled by proprietors.

Waste lands to the extent of 1,064,015 acres were declared to be the property of the Government. Of this area 798,010 acres were classed as culturable. Para. 224. Appendix VIII.

Out of an arable and assessable area of 935,765 acres, only 46,331 acres were under cultivation at settlement. There was thus abundant room for extension of cultivation before the expiry of the settlement on the 30th June 1886 and the 30th June 1887. The term is 20 years. Appendix VI. Para. 230.

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	27,950
	1869-70	31,575
	1870-71	34,599
	1871-72	31,711
	1872-73	30,706
	1873-74	33,483*
	1874-75	12,951
Half year ending 30th September 1875		7,041
Revenue year	1875-76	17,143
	1876-77	17,143

* NOTE.—The Bhadrachellum and Rakapilli taluqs were transferred to Madras in 1873-74.

RAIPUR.

Area ... 11,885 *sq. miles.*

Population ... 1,093,405.

Report, paras. 232, 258.

Paras. 343, 344.

Para. 326.

THE various stages of settlement work went on simultaneously in different parts of the district, and lasted altogether from October 1862 to March 1869, or nearly six and a half years. For the first fifteen months, the work was carried on by the district officers, with one Assistant Settlement Officer; during the rest of the time there was a separate Settlement Officer (with the assistant) in charge. The old and new assessment compares as follows:

	Old.	New.
	Rs.	Rs.
Khalsa ...	3,17,819	5,31,469
Zamindaris ...	14,860	23,249
Feudatories ...	77,280	1,04,000
	4,09,959	6,58,718

showing an increase of Rs. 2,48,759.

Para. 327.

The cost of settlement was Rs. 3,23,000.

After the first ruinous period of Mahratta rule, the district was annually settled by British officers during the protectorate from 1818 to 1830. The assessments were by the pargana, and were apportioned over the villages by the kamaishdars and gauntias. This was a period of improvement, and when in 1854, after the second and milder Mahratta occupation, the district finally came under British rule, the khalsa revenue was Rs. 2,78,536. Subsequent assessments were Rs. 3,11,193 (1858-60) and Rs. 3,17,819 (1860 to present settlement). The so-called zamindari estates are taluqas of various sizes and dates, paying quit-rents of from 20 to 30 per cent. on their estimated assets; and the feudatories are similar, but larger. All the old assessments, whether on khalsa, so-called zamindari, or feudatory lands, had originally been founded on the arbitrary and unequal Mahratta demand, and had never been reduced to any fixed principles.

Para. 259.

The old revenue incidence on khalsa lands was $3\frac{1}{2}$ annas per cultivated acre, and rents apparently ranged from 12 to 4 annas the acre, with an average of between 6 and 7 annas. The new revenue-rate was assumed at 5 annas, because (1) this was

the rate in villages on which actual assessments pressed most heavily, and (2) rents seemed likely to rise to 8 annas per acre. This rate was checked by assumed soil rent-rates, ranging from 2 annas to one rupee, and also by average rates on malguzari area of 4 and 2½ annas in average and inferior villages. The incidence of the pargana assessments varied from 8 annas to 2 annas 2 pie per acre of cultivation, giving a general incidence of 5 annas 10 pie throughout the khalsa lands. The new assessments were followed by a proportionate rise in rents; and in five parganas the incidence of the new assessments on the new rents was 53 per cent., but statistics for the entire district are not forthcoming, and the rental above quoted leaves out of account large areas of sîr. On estimated value of gross outturn, the khalsa assessments fell at only 4·4 per cent. The khalsa settlement would thus appear to be an extremely light one, but the Chief Commissioner was satisfied with it at the time. The 'zamindari' and feudatory full revenue assessments were estimated on the same principle as in khalsa lands, except that the jungle zamindaris were measured not field by field, but in blocks, and two were too wild and remote to measure at all. From the full revenue assessments the quit-rents were educed by consideration of the circumstances of each estate.

Paras. 260—265.

Paras. 270—294.

Para. 261.
Statement on pp. 62—66.

Review, para. 9.

Report paras. 267, 268, 295—325.

Waste lands to the extent of 1,033,520 acres were measured off and declared the property of the Government.

Para. 254.

The khalsa villages were mostly settled with the 'guantias,' or village malguzars, to whom the villages generally owed their existence. Shares were for the first time recognized and recorded, in favour of such of the gauntia brotherhood as did not prefer the old custom of rent-free holdings. In almost all cases the ryots had been settled in their villages by the guantias, and the custom of changing fields further prevented the recognition of any inferior proprietary right except in the south of the district. Transferable occupancy rights were, however, freely bestowed. Four parganas were held by tahootdars (lessees under clearance leases). These were mostly settled with the sub-lessees, the tahootdar receiving full or partial proprietary rights in those villages only which he had managed directly, or in which he had substantive claims superior to the sub-lessees; while in the remainder his rights were restricted to a malikana generally of 10, but sometimes of 33⅓

Paras. 239, 240.

or 50 per cent. In 13 khalsa villages, also, sub-lessees were awarded 50 per cent. of the profits. In only 18 villages out of 697 so-called 'zamindari,' were the sub-lessees recognised as having a right to hold at existing rents during the term of settlement.

Review, para. 11.

The settlement is for 20 years, and apparently expires in 1887-88.

Subsequent statistics are as follows :

	Years.		Land Revenue Collections. Rs.
Financial year	1868-69	...	5,99,493
	1869-70	...	6,45,193
	1870-71	...	6,48,475
	1871-72	...	6,45,509
	1872-73	...	6,43,556
	1873-74	...	6,43,820
	1874-75	...	6,45,606
Half year ending 30th September 1875,			3,22,572
Revenue year	1875-76	...	6,46,197
	1876-77	...	6,46,019
	1877-78	...	6,46,681

MANDLAH.

Area	...	4,719 *sq. miles.*
Population	...	213,018.

SETTLEMENT operations began in October 1864 and ended in August 1869, thus lasting about four years and eleven months. They were conducted by a Settlement Officer with a Native assistant. The result was to increase the revenue by Rs. 20,157, or 48·4 per cent., *i. e.*, from Rs. 41,685 to Rs. 61,842, at a cost of Rs. 1,30,527. Paras. 182—190. Paras. 263, 264.

The district is part of the tract ceded in 1818, and previous assessments are shown as follows: Paras. 237—241.

		Rs.
At cession	...	40,089
1818-19	...	35,945
1819-20	...	37,124
1821-25	...	65,973
1825-30	...	46,361

These figures relate to tahsil Mandlah alone, which gives Rs. 44,541 of the present revenue of the district. This settlement was cancelled in 1827.

		Rs.
1827-37	(Mandlah)	34,098
1837-57	ditto	26,863

This settlement was prolonged to 1861, when a summary settlement of tahsil Mandlah was made at Rs. 27,039 and carried on till 1868, with modifications.

The Ramgath tahsil appears to have been held on a quit-rent of Rs. 2,000 until 1866, when the family of the Lodhi Chief were pensioned off, and the villages were settled with the subordinate proprietors at Rs. 11,164, raised now to Rs. 17,301. Paras. 237, 200, 263.

Apparently the settlements of Mandlah prior to 1837 were all too high, and even under the 1837 settlement remissions had to be made at first; but the data are said to be uncertain. The district, at any rate, went more or less to the bad. Paras. 64, 240, 55.

Circle soil-rates in Mandlah were evolved from the rent-rolls, and tested by produce-rates. They varied by circles from Rs. 1-4 to 3 annas on the cultivated acre, and the average rent-rate of the tahsil was 7 annas. In Ramgarh, rents having always been taken on the plough, and the Gonds being unwilling to shew their ploughs, the circle soil-rates were educed by calculations on Paras. 243, 245. Paras. 244, 246, 252.

the produce, taking the rent as one-fifth of the gross rabi outturn, and one-sixteenth of the gross kharif outturn. These soil-rates varied from 12 annas to 9 pie; by circles they varied from 10 to 2 annas; and the average assumed rent-rate of the tahsil was 2 annas 11 pie per cultivated acre. The revenue demand of Mandlah, as actually assessed, proved to be only 3 annas 9 pie, and that of Ramgarh only one anna 8 pie, per cultivated acre: or 2 annas 11 pie for the whole district. The total assessments (made at half assets) fell at 64·5 per cent. on actual assets at time of settlement, and were estimated at $\frac{2}{15}$ths of the gross outturn in Mandlah, but in Ramgarh at only one-twentieth.

Appendix I.
Appendix V.

Government lands, including an undefined area of forests, were demarcated to the extent of 842,642 acres.

Para. 218.

Tenures were as follows:

	Number of villages.
Settled with old watandars ...	663
Ditto with farmers	57
Ditto with malguzars of not over 20 years' standing	167
Ditto with malguzars of not over 12 years' standing	407
Ditto with new men	142
Given for loyalty	97
Held by Government	8

The proprietary right conferred by the present settlement was little valued at the time. Conflicting claims were few, and in Ramgarh the difficulty was to get applicants, not to decide between competitors.

Paras. 199–204.

The malguzars of the Ramgarh tahsil have to pay the Government a malikana of 20 per cent. on the revenue, as pension for the family of the old Lodhi Chief. Plot and parcel proprietors were mostly relatives of the malguzars, farmers with insufficient claim to settlement, ex-malguzars, or ex-muafidars. They numbered 54 in Mandlah. In Ramgarh these rights were little valued, and were experimentally conferred in eight cases only.

Paras. 204, 206.

The percentage of proprietary cultivation was 15.

Cultivation at settlement was 351,640 acres, against 585,929 acres uncultivated and culturable. The settlement is one for 20 years, expiring for tahsil Mandlah

in the winter of 1887, and for tahsil Ramgarh in the winter of 1888.

Paras. 186, 189.
Commissioner's para. 11.

Appendix I.

Less than one per cent. of cultivation in Mandlah was irrigated at settlement. In Ramgarh there was virtually no irrigation at all. These statistics, however, probably relate to cane and garden crops only.

Subsequent statistics are as follows :

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	51,032
	1869-70	67,118
	1870-71	67,159
	1871-72	67,130
	1872-73	67,064
	1873-74	67,924
	1874-75	71,931
Half year ending 30th September 1875		35,723
Revenue year	1875-76	71,093
	1876-77	69,226
	1877-78	64,716

BILASPUR.

Area ... ... 7,798 *sq. miles.*
Population ... 715,398.

Report, paras. 224, 230.

SETTLEMENT work began in October 1863 and ended in October 1868, thus lasting five years. Assessments were raised from Rs. 1,72,301 to Rs. 2,85,161, including resumed revenue-free lands. Thus the increase was Rs. 1,12,860, or 65 per cent. The cost of settlement was Rs. 1,60,854.

Para. 299.

Para. 243.

Paras. 210, 211, 209.

During Mahratta rule, the revenue of the parganas now composing the district appears to have been Rs. 1,25,034, and the demand practically remained unchanged throughout the thirteen years of the British protectorate from 1818 to 1830, but the general improvement of the district in this period was such that the Mahrattas, on resuming possession, were able to enhance the assessment to Rs. 1,75,966. This was the revenue demand when the district lapsed in 1854, and the last summary settlement reduced it to Rs. 1,72,301. When the present settlement began, the assessments had practically stood unchanged for twenty years, and the increase of cultivation, coupled with a strong element of chance in the original assessments, had wrought striking anomalies, such as adjoining and similar villages assessed respectively at one pie and eight annas per cultivated acre. The principle had been to collect the full rents of tenants from the holders of villages, leaving them to make their profit out of their sîr. The rents thus recorded often differed from the real rents.

Mahratta rule. Rs.	Protectorate. Rs.
95,935	99,285
7,968	7,968
21,131	21,131
1,25,034	1,28,384

And Rs. 1,46,867 + the above two items = Rs. 1,75,966 under the second Mahratta rule.

Para. 248.

The new assessments were made by taking an average rent-rate of 10 annas for the whole district (based on 10 years' prices and on the assumption that the revenue incidence of 3½ annas would bear raising to 5 annas); this rate was modified in application by soil-rates varying from one rupee to four annas, and further checked by plough and produce rates, "the former being deduced by an average "rate per plough, the latter by a fixed "fractional share (one-sixth) of the mini-"mum value of each description of pro-"duce." Settlement was made at half assets. The assessments were as follows:

Paras. 258, 244.

Para. 256.

Para. 244.

Paras. 299, 300.

	Old demand. Rs.	New demand. Rs.
Khalsa ...	1,51,090	2,42,819
Zamindaris ...	21,131	41,427
Ubari, &c. ...	80	915
	1,72,301	2,85,161

The increase on khalsa villages is 66 per cent., *i. e.*, 40 per cent. for increased cultivation, and 26 per cent. for enhancement of rents due to rise in prices. The khalsa settlement falls at less than 48 per cent. on the estimated settlement rental, and at only 4½ annas per cultivated acre, and 3·4 per cent. on the value of gross produce. Zamindaris, or rather chiefships, were 15 in number, and the same causes account for the enhanced demand in their case also. Assessments here were made with reference to the ratio previously existing between assets and tribute, *i. e.*, at from 25 to 33 per cent. of the assets.* The revenue nature of these chiefships is explained in the words "the malguzars "of the several villages comprised in each "estate paid their full jamas to the "zamindars," who enhanced these demands when they could, their own quit-rent remaining unchanged, not of right, but through negligence on the part of the ruling power. The easy quit-rents were originally a matter either of policy or necessity. Primogeniture being the rule of succession, the "entire proprietary right "was conferred on the zamindar in possession, and relations were noted as entitled "to maintenance on separation, while those "already separate and holding villages "were acknowledged as sub-proprietors... "The chiefs enjoyed miscellaneous sources "of revenue, such as abkaree, pandree, "forests, &c." Their income had in most cases greatly increased since the previous revision of the quit-rent. There were two 'tahootdaree' tenures, *i. e.*, tenures arising from grants given in 1826 and 1828 for reclamation and the founding of villages. The tahootdars, now called taluqdars, were confirmed in the superior proprietary right, with malikana from inferior proprietors in the proportion of the tahootdar's actual commission on the old revenue, where such commission did not exceed 50 per cent. The settlement of 2,241 mahals was made with 4,292 malguzars. Under Mahratta rule the malguzar had been treated as a farmer, liable to be ousted in favour of a more solvent competitor. The present settlement thus found about 20 per cent. of the malguzars in possession for less than 20 years. They were confirmed, in default of old tenants with whom the lands could be settled. Farmers proper were differently dealt with, being either recognized as inferior proprietors, or given occupancy (transferable) rights in their cultivation, or allowed to continue to hold under existing contract, or by agreement with the lessor. The superior

Paras. 253, 255.

Paras. 302, 142.
Appendix I.

Paras. 283—297.

Para. 261.

* Rs. 41,427 on assets estimated at Rs. 1,44,094 (para. 376).

Para. 259.

Paras. 213—215.

Para. 324.

Paras. 317, 320, 321.

proprietors or lessors were zamindars (quit-rent owners of chiefships), or taluqdars, or malguzars, and the general result was as follows :

Para. 334.

	Total number of farmers.	Made inferior pro-prietors.	Given occupancy rights.	Continuing to hold under lease or by agreement.
Chiefships ...	807	231	158	418
Taluqdari villages	215	51	48	116
Malguzari do.	371	74	63	234

Para. 338.

The calculation of malikana payable by inferior proprietors has been explained above. Besides the above proprietary rights, 11,125 cultivators, of older standing than the proprietors of the mahal, were recognized as 'proprietors of their holdings'; and a similar record was made in the case of 127 relatives of the farmer or actual proprietary body, and in that of 102 holders of rent-free or resumed revenue-free plots.

Para. 371.

Review, para. 24.

Government waste land to the extent of 693 square miles were demarcated and reserved.

The settlement expires on the 30th June 1888.

Appendix I.

The cultivated area at settlement was 1,337,483 acres, or less than 50 per cent. of the culturable area.

Appendix VI.

The percentage of proprietary cultivation (excluding proprietors of holdings) was 22·3.

Appendix I.

Irrigation at settlement in the khalsa villages was only 0·7 per cent.

Para. 385.

Review, para. 22.

Settlement operations were conducted by the Deputy Commissioner for the greater part of the time. There was also a Settlement Deputy Collector.

Subsequent statistics are as follows :

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	2,51,643
	1869-70	2,81,996
	1870-71	2,85,472
	1871-72	2,79,101
	1872-73	2,79,078
	1873-74	2,79,395
	1874-75	2,79,572
Half year ending 30th September 1875		1,39,836
Revenue year	1875-76	2,79,715
	1876-77	2,80,030
	1877-78	2,80,030

NIMAR.

Area ... ... 3,340 *sq. miles.*
Population ... 2,11,176.

THIS district was farmed from 1829 to 1839; was partly farmed and partly held under direct management till 1851; and a twenty-years' settlement was then concluded for about half of it, beginning from dates ranging between 1853 and 1857, when the mutiny put an end to work. On resuming operations in March 1866, it was found necessary to re-settle the entire district; and this was accomplished by the 30th June* 1869. The result was an increase of revenue from Rs. 1,52,446 to Rs. 1,68,793+Rs. 8,301 on resumed revenue-free lands. The difference is Rs. 24,648, or 16 per cent. Settlement operations cost Rs. 1,14,000.

Report, paras. 473, 195.

Review, para. 11.

	Yrs.	Mths.
* Date of report.		
March 1866 to June 1869	3	4

Report, para. 471.

Para. 518.

The mode of assessing was this:—A gross rental was assumed (including large sayer items) for the cultivated area of each assessment circle. This was then distributed over the villages by the help chiefly of average rent-rates for four soil classes, ascertained from recorded rentals, cost of tilling and value of produce, and "all available data". Separate rates were calculated for irrigated land. The revenue thus assessed fell at 10 annas per cultivated acre, and absorbed one-sixteenth of the value of the gross outturn. It was assessed at 60 per cent. in all but the fully cultivated tracts. The incidence on recorded settlement assets proved to be 53 per cent.

Paras. 461, 465, 466.

Para. 472.

The settlement was made with malguzars, who in 92 per cent. of cases were either the old patels (70 per cent.), or lessees or jagirdars.

Report, paras. 266, 270.
Tables, pp. 166, 284—285.

There were 1,118 malguzars to the 645 villages of the district. Shareholders, where not admitted to settlement, got proprietary right in their seer lands on easy terms.

Paras. 271, 272, 273.

The percentage of proprietary cultivation was 15, and of cultivation by proprietors of holdings, 58.

Para. 299.

The settlement has been made for 20 years from the dates of the engagements taken. It would therefore expire in 1888-89.

Para. 863.

Page 350.

Government waste lands, forest and culturable, were 1,894 square miles, but the district boundaries have been altered since then.

Only 3 per cent. of the cultivated area is shewn as irrigated at settlement.

Subsequent statistics are as follows :

	Years.		Land Revenue Collections. Rs.
Financial year	1868-69	...	1,60,968
	1869-70	...	1,57,888
	1870-71	...	1,58,530
	1871-72	...	1,58,119
	1872-73	...	1,58,069
	1873-74	...	1,58,460
	1874-75	...	1,58,419
Half year ending 30th September 1875			57,113
Revenue year	1875-76	...	1,58,390
	1876-77	...	1,74,036
	1877-78	...	1,74,660

WARDA.

Area	... 2,401 *sq. miles.*
Population	... 354,720.

DEMARCATION and measurements, begun in November 1857 and February 1858, were carried on by the Settlement Officer of Nagpur till November 1862, when Warda was made a district, and the Deputy Commissioner took up settlement work till the end of 1862, from which time, until September 1866, a separate Settlement Officer, with an assistant, was in charge. Thus settlement operations lasted nearly nine years, and during three and a half years they were conducted by a special settlement staff. The result was to raise the revenue demand from Rs. 4,11,930 to Rs. 4,16,345, *i. e.*, by Rs. 4,415, or 1·2 per cent., including resumed revenue-free lands. Of 988 mahals in the district, 395 came under enhancement, and 219 under reduction of revenue, leaving the demand from 374 mahals unchanged. The practical result is described as a re-distribution and equalization of the Government demand. The cost of settlement was Rs. 1,79,954.

Report, Paras. 3, 4, 43, 235.

Settlement Commissioner's para. 21.

Report, para. 235.

The district lapsed to the British in 1854, and a summary settlement was at once made for three years following, based upon the last of a series of Mahratta triennial settlements; this was subsequently revised and continued to 1860. These assessments were too high, encouraging emigration to Berar. The Mahratta settlements had been made with the patels, here described as village headmen, who had all the risk of collecting, but were allowed to retain excess collections up to 15 per cent. over and above the revenue demand. They had no proprietary right, and were frequently displaced to make room for a higher bidder, often a stranger.

Paras. 21—25, 144.

Settlement Commissioner's para 51.

There are no statistics in the Report, see para. 192.

Paras. 78, 81.

In 1860, proprietary right was conferred on the persons with whom settlement was made. These were mostly the ancestral 'malguzars,' and numbered 988 altogether (one to each mahal, apparently, but mention is made of 'proprietary bodies,' so these 988 are no doubt the lumberdars). In only 8 per cent. of mahals were malguzars ousted and settlement made with rival claimants. The ousted malguzars had all held for less than twelve years. Ancestral malguzars

Paras. 144, 147, 151, 153, 199, 193.

and others who had a prescriptive right, but were not admitted to settlement, obtained proprietary rights in their own lands, paying revenue only (plus 5 per cent. commission) to the malguzar. Other classes of similarly independent proprietors were recognised in ex-sharers and old tenants who had sunk capital in their fields. The total number of such proprietors was no less than 149,202, against 49,233 occupancy tenants, and 245,162 tenants at will. Twenty-two villages were settled with a single proprietor at a quit-rent 30 per cent. below the assessed revenue demand.

Paras. 199—206, 221, 226.

Pages 86, 88.

In two parganas, soil-rates by circles were obtained by analysis of rent-rolls, with allowance for the understating of rents. They varied from two rupees to four annas per acre. Assessment was made at 60 per cent., checked by the village fiscal history and circle plough rate, and finally fell at 8 annas 6 pie and 7 annas 7 pie on cultivation in the two parganas respectively. In two other parganas, the assumed soil-rates ranged between Rs. 1-12 and 2 annas 5 pie. Corrected as above, they gave a general acreage incidence on cultivation of 8 annas 3 pie in the two parganas, falling at just 60 per cent. on assumed assets. Regarding the remaining three parganas of the district, no statistics are given. The revenue falls at the average rate of 9 annas 7 pie per acre on the cultivated area of the entire district.

Para. 169.

Paras. 174, 183.

Chapter XII.

Settlement Commissioner's para. 1.

Excess waste to the extent of 210 square miles was marked off and declared Government property.

Ditto para. 33.

Great advantages were expected from the railway, and also from canal irrigation, if introduced. The present settlement is for 30 years, and expires on the 1st June 1893.

Paras. 100, 127.
Review, para. 2.

Irrigation covered little more than ½ per cent. of the cultivated area at settlement.

Para. 95.

Subsequent statistics are as follows :

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	5,03,397*
	1869-70	5,05,688
	1870-71	5,08,745
	1871-72	5,08,881
	1872-73	5,09,329
	1873-74	5,09,954
	1874-75	5,09,902
Half year ending 30th September 1875		1,86,710
Revenue year	1875-76	5,09,449
	1876-77	5,10,755
	1877-78	5,10,757

* Including transfers from Nagpur.

JUBBULPORE.

Area ... 3,918 *sq. miles.*

Population ... 5,28,859.

MEASUREMENTS began early in 1855, were resumed, after the mutiny, towards the close of 1858, and finished by July 1861. Assessments were finished between April and August 1863, but the final report was not submitted till October 1867. It included the report of the settlement of pargana Bijayraghugarh begun in 1860. The work was done by the Deputy Commissioner, with a Deputy Collector, and also, for 16 months, with an Assistant. The result was to raise the revenue demand from Rs. 5,25,469 to Rs. 5,69,443, *i. e.*, by Rs. 43,974, or 8·4 per cent. The cost was Rs. 3,50,000.

Paras. 39—42, 56—71.

Para. 55.

Para. 85.

Para. 112.

The district was ceded in 1818. Former settlements, exclusive of the Bijayraghugarh pargana, were as follows :

Paras. 82, 83.

		Rs.
1819	...	4,17,375
1820—24	...	4,48,169
1825—29	...	6,41,007
1830—34	...	6,05,014

These last two quinquennial settlements were carried through only by means of large remissions. In 1836 a 20-years' settlement was made at half assets instead of two-thirds assets. It was for Rs. 4,75,760. In 1858 it was modified to Rs. 4,75,145, and continued at that figure till the present revision. Bijayraghugarh had been settled by leasing the villages to the highest bidders. The revenue demand was Rs. 52,229 for 1858-59, Rs. 59,591 for 1859-60, and Rs. 50,324 from 1860 till the revised assessment of Rs. 59,983.

Paras. 84, 85.

Circle soil-rates were arrived at by analysis of rent-rolls and by local enquiries, and the resultant revenue rates at half-assets were corrected by the 'produce jama', the 'plough jama' (here, as elsewhere, a fallacious calculation), and by regard to village circumstances. The revenue incidence per cultivated acre throughout the district was 10 annas 3½ pie. On the settlement assets, after readjustment of rents, the revenue fell at a percentage of 50·6.

Paras. 77—81.

Appendix IV.

Paras. 89, 90.

Para. 108.

Para. 90.

Government waste lands to the extent of 314,596 acres were demarcated and appropriated.

Paras. 92, 95, 97, 98, 100.

The settlement was made with taluqdars and malguzars. The latter represented the patels of Mahratta rule, who were at any time liable to displacement. They were of the following classes :

	Jubbulpore mahals.	Bijayraghugarh mahals.
Hereditary in possession	2,080	149
Ditto re-instated ...	59	63
New farmers ...	199	54

Para. 95.

Appendix X. The total number of mahals as given does not tally with that made out by paras. 95, 97.

The taluqdars mostly managed their own estates, and were thus really zamindars of the ordinary type. In 60 mahals only did sub-lessees receive inferior proprietary rights, subject to a malikana ranging from 10 to 50 per cent. over and above the Government revenue demand. The number of persons to whom proprietary rights in mahals were awarded was 8,125, the number of mahals being 2,707, as below :

Taluqdari ...	...	60
Zamindari ...	...	2,319
Pattidari { Perfect	...	11
Pattidari { Imperfect	...	287
Bhayachara ...	...	30
		2,707

There were 4,180 proprietors of holdings, to 24,948 occupancy, and 54,076 tenants at will.

Para. 101.

The cultivated area at settlement was only 884,740 acres, to 1,527,828 acres of uncultivated land, exclusive of Government wastes.

Paras. 88, 89.
Review, para. 50.

The Jubbulpore settlement expires on the 30th June 1893 ; the Bijayraghugarh settlement, which is for 20 years only, on the 30th June 1887.

Subsequent statistics are as follows :

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69 ...	5,70,057
	1869-70 ...	5,61,323
	1870-71 ...	5,62,126
	1871-72 ...	5,64,377
	1872-73 ...	5,66,497
	1873-74 ...	5,66,579
	1874-75 ...	5,66,445
Half year ending 30th September 1875		3,43,930
Revenue year	1875-76 ...	5,66,214
	1876-77 ...	5,67,585
	1877-78 ...	5,68,236

BAITUL.

Area ... ... 3,905 *sq. miles.*
Population ... 2,74,264.

MEASUREMENTS began in 1855, were resumed in July 1859 after the mutiny, and finished by July 1862. Assessments were completed by September 1863, and operations came to a close in July 1864, having lasted about six and three-quarter years,* exclusive of the mutiny break. Till July 1862 they were conducted by a Deputy Collector under the Deputy Commissioner. Their result was an increase of revenue by Rs. 44,911, viz., from Rs. 1,38,853 to Rs. 1,83,764, or by 38 per cent., at a cost of Rs. 1,39,893.

	Yrs.	Mths.
* October (say) 1855 to June 1857 ...	1	9
July 1857 to July 1864 ...	5	0
	6	9

Pages 155, 137, 144.

Government waste lands measuring about 690,400 acres were demarcated and reserved. These gave Rs. 16,000 extra in 1866-67.

Paras. 333, 334.
Note to para. 3, review.

The average Mahratta assessments for ten years ending with 1803 are said to have been Rs. 1,66,490; but for the thirteen succeeding years they were Rs. 2,46,649. Assessments under our rule have been as follows:

Pages 81—89.

	Rs.
1819 for five years ...	2,86,580
1823 for three years ...	2,03,471
1826 for five years ...	2,00,510

(Average collections of these five years, Rs. 1,84,898 only.)

	Rs.
1831 for three years, renewed for three years in 1834	1,61,224
1837 for 20 years, continued to July 1864 ...	1,40,000 in round numbers.

Up to 1831 the assessments were much too heavy, being calculated on the principle then in vogue, of a fluctuating revenue, with a maximum to be kept in view. The district during this period was falling back and losing population.

Paras. 242, 238.

A general rise of rents being assumed for the future, circle soil-rates were arrived at by personal inquiry, and by comparison of the rates adopted in former settlements and in other districts, with data obtained from the rent-rolls, and from leases given by muafidars. Plough and produce rates (the latter at one-sixth gross outturn) were a subsidiary check. The

Paras. 240, 241.

Commissioner's para. 27.

Para. 314.

Appendix II.

incidence of the assessments varied by circles from 1 anna 7 pie to 7 annas 4 pie, and by parganas from 3 annas 8 pie to 5 annas 6 pie per acre of cultivation, the district average being 4 annas 7 pie. Settlement was made at half assets; the incidence of the revenue on the rental shortly after settlement (excluding, however, recent rent enhancements) was 64 per cent.

The malguzars in this district were comparatively seldom the representatives of the old patels, but new men who had come in at the settlements of 1834 and 1837, after the patels had been broken down by the heavy assessments preceding. The landed tenure of the district is described as that of 'zamindari' villages, held by one or more members of the same family; there seem to have been only 1,092 malguzars to 1,073 villages. Only 6 per cent. of the cultivated area was tilled by proprietors, but 64 per cent. by hereditary cultivators. Proprietary tenant holdings were created on the usual principles. Here, as in Bhandara, the gift of ownership was frequently declined, as involving payment of commission to the malguzar, and the probable withdrawal of his support.

Para. 98.

Para. 115.

The culturable uncultivated land at settlement was 496,335 acres, to 635,912 acres under cultivation. The lowness of the assessments was accounted for by the generally backward state of the district. The settlement is one for 30 years, and expires on the 30th June 1894.

Appendix III.

Commissioner's para. 27.

Para. 5, Review.

Appendix I.

Only 2·4 per cent. of the cultivated area is shewn as irrigated at settlement (cane and garden land only, most likely).

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	1,90,281
	1869-70	1,90,394
	1870-71	1,90,692
	1871-72	1,90,692
	1872-73	1,90,692
	1873-74	1,89,699
	1874-75	1,89,126
Half year ending 30th September	1875	1,01,333
Revenue year	1875-76	1,89,130
	1876-77	1,89,179
	1877-78	1,89,185

NARSINGHPUR.

Area ... 1,916 *sq. miles.*
Population ... 3,39,395.

MEASUREMENTS began in 1856, were interrupted by the mutiny, and completed in 1862. Assessments and revision of measurements went on from November 1863 to January 1865, and completion of records and determination of tenures prolonged operations till February 1867. Excluding breaks, the work lasted five and a half years.* The settlement appears to have been conducted by special officers. It cost Rs. 1,61,053. The result was an assessment of Rs. 4,21,699, succeeding one of Rs. 3,31,292, equivalent apparently to Rs. 4,80,164 in Nagpur currency.† Thus the increase was Rs. 90,407, or 27·6 per cent.

Settlement Commissioner's para. 35.
Report, para. 154.
Mr. Russell's report, para. 2.

	Yrs.	Mths.
* 1856 to June 1857 ...	1	6
1860 to 1862 (about) ...	2	0
November 1863 to February 1867 ...	3	4
	5	10

Settlement Commissioner's para. 34.

Appendix 14.
Settlement Commissioner's para. 19.
Viz., Rs. 53,137 less than the previous full assessment of Rs. 5,33,301 (Nagpur rupees). Report, paras. 124, 126.
† Para. 85 of the Raipur report shews the Nagpur rupee in 1855 as = 85 per cent. of the Company's rupee.

The district came under British rule in 1818, and was first assessed in 1819. Quinquennial settlements followed in 1820* and 1825, and triennial settlements in 1830 and 1833. All these were much too heavy, and the district made no progress. The twenty-years settlement was made in 1836. It has been followed by the present settlement.

Report, para. 51.
Paras. 118, 123—126.
* 1820, N. Rs. 6,67,694 (against 6¼ lakhs highest Mahratta assessment).
1825, N. Rs. 5,27,684.
Paras. 55, 56, 59, 60.

Rent rates were arrived at from a comparison of four soil-rates, of produce rates, and recorded assets. They varied from Rs. 2-10 to 4 annas the acre. The general incidence of the assessments was a little under 51 per cent. on actual assets, and a fraction over 12 annas per cultivated acre. Rents had risen 24 per cent., and ploughs had increased 80 per cent., during the twenty-years settlement.

Paras. 141, 153.

Excess waste lands were for the first time marked off as State properties. Their area is not given.

Para. 151.
Appendix 17.
Para. 67.

There were 1,325 villages in the district at settlement. Of these, 207 were settled at half assets with taluqdars, descendants of Gond feudal chiefs. The lessees under the taluqdars, according to length and origin of possession, were recognised as sub-proprietors, as proprietors of their holdings, or as occupancy tenants. The remainder of the district (1,108 villages) was settled with malguzars of whom 93 per cent. were of old standing. The malguzar here, as elsewhere, under Mahratta rule, was theoretically regarded as a mere

Review, note to para. 3.
Paras. 169, 158—161, 165, 167, 175, 177.

farmer, but practically he belonged to and represented the old proprietary body. In 64 villages only had the malguzars split up into pattis. *Watandars* and *haqqdars* were members of the proprietary body who had got rent-free lands as an equivalent for their shares.

Statement 15.

Sixteen per cent. of the cultivated area was tilled by proprietors (*i. e.*, by malguzars).

Para. 144. Review, para. 4.

The present assessments expire in 1894.

Para. 86.

Irrigation was "almost unknown".

Subsequent statistics are as follows :

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	4,18,013
	1869-70	4,18,330
	1870-71	4,18,064
	1871-72	4,18,044
	1872-73	4,17,988
	1873-74	4,19,379
	1874-75	4,17,830
Half year ending 30th September 1875		2,69,813
Revenue year	1875-76	4,17,860
	1876-77	4,17,801
	1877-78	4,17,803

HOSHANGABAD.

Area ... 4,376 *sq. miles.*

Population ... 4,63,625.

SETTLEMENT operations began in April 1855, and lasted continuously till November 1857, and again from July 1859 to March 1866, thus occupying about nine and a quarter years altogether. Till March 1863 they were conducted by the Deputy Commissioner, with a Native assistant, and also with a European assistant for four months. From March 1863 this staff was placed under a Settlement Officer. The result was an increase of revenue by Rs. 1,13,946, or 37 per cent., *i. e.*, from Rs. 3,09,905 to Rs. 4,23,851, at a cost of Rs. 2,48,446.

Pages 144, 145, Mr. Russel's 3rd paragraph.

	Yrs.	Mths.
April 1855 to November 1857	2	6
July 1859 to March 1866 ...	6	9
	9	3

Page 229.

Page 145.

Government wastes were demarcated to the extent of 5,17,931 acres.

Page 146.

Annual settlements were made for the first two years after the cession. The subsequent settlements were as follows:

Page 49.

	Rs.
1821 (five years)	2,56,706
1826 (ditto)	2,70,053
1831 (ditto)	2,29,413
1836 (20 years)	2,09,970
Revenue in 1863	2,23,498

Add the Harda tract made over in 1844:

	Rs.	
1844-46	89,591	Page 53.
1847 (five years)	95,591	

The Government share of the rents was assumed as 85 per cent. in the first two quinquennial settlements, 80 per cent. in the third, and 66 per cent. in the 20 years in settlement. The assessments preceding the 20-years settlement were all too high, and injured the district.

Page 48.

The cultivated area nearly doubled during the 20-years settlement, which was prolonged to 30 years.

Pages 200, 154.

Plough and produce rates being discarded, the old revenue-rate on cultivation, *viz.*, (after correction for under-measurement) 10 annas the acre, was taken as *primâ facie* fair; it was reckoned that the rent rate, which had decreased since 1836, should be capable of an increase of four annas in the rupee; and this again led to a 50 per cent. revenue rate of 10 annas. In applying this rate, soil rates were used to

Pages 202—206.

Page 207.

regulate its incidence according to individual circumstances; these were 8 annas, 16 annas, 20 annas, and 24 annas per acre for the four classes of land (black, sandy, and two mixed classes according as loam or sand predominated). The revenue incidence averaged 10 annas 8 pie in three parganas, 8½ annas in two, and 6½ annas in the sixth pargana, and for the whole district it was 9½ annas. The rent rate of the district, after adjustment, was Rs. 1-4-5; and the assessments fell at 46½ per cent., on the rental so adjusted, including estimated rental value of sîr lands; and at only 3·6 per cent. on estimated value of gross outturn.

Pages 231, 232 A.

Pages 98, 99.

Settlement was made with malguzars, mostly recent men. In four taluqas of Rajgonds, comprising 220 villages, subsettlement at half the revenue was made with the lessees of 85 villages, and at five-eighths of the revenue with cadets holding 26 villages. In two other taluqas, subsettlement of 16 villages was made at 10 and 20 per cent. on the revenue. Plot holders were of the usual four classes, viz.,—

Pages 151—155.

Pages 165, 167.

Page 168.

(a) Cadets of the malguzar's family.

(b) Old malguzars.

(c) Owners of resumed muafi lands.

(d) Lessees not entitled to subsettlement.

They all numbered only 398.

Page 232 A.

Nineteen per cent. of the settlement cultivated area was tilled by proprietors (zamindars).

Page 231, Review, para. 3.

Page 145.

The assessments were considered light. The settlement is one for 30 years, ending apparently in May 1894 and April 1895.

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	... 4,16,726
	1869-70	... 4,16,842
	1870-71	... 4,17,252
	1871-72	... 4,17,581
	1872-73	... 4,17,599
	1873-74	... 4,17,631
	1874-75	... 4,18,620
Half year ending 30th September 1875		3,15,871
Revenue year	1875-76	... 4,19,335
	1876-77	... 4,19,393
	1877-78	... 4,19,393

DUMOH.

Area ... ... 2,799 *sq. miles.*
Population ... 269,642.

MEASUREMENTS began early in 1854 and went on to June 1857, when the mutiny swept away all that had been done. Re-measurement lasted from October 1860 to June 1864. Assessment was begun by the District Officer in the winter of 1862-63, and completed by a Settlement Officer between November 1863 and the 15th October 1864. The new village papers were ready by the end of 1865-66. Thus, excluding pre-mutiny work, settlement operations lasted five and a half years. A Native Deputy Collector had been employed from the beginning.

Chapter IV. of Report.

Settlement Commissioner's para. 2.

	Yrs.	Mths.
October 1860 to June 1864 ...	3	8
April June 1864 to 1866 ...	1	10
	5	6

Paras. 56—60.

Quinquennial settlements* had existed from 1819 to 1833, and a 20-years' settlement from 1835 to 1855. These were all too heavy, and the initial demand of the 20-years' settlement, Rs. 3,05,142, had to be gradually reduced down to Rs. 2,66,460.

	Rs.
* 1819 to 1823	3,53,520
1824 to 1828	3,03,967
1829 to 1833	3,24,442
1834 to 1835 (about) ...	2,50,000
1835 to 1854	3,05,142

Report, para. 60.
Do. do. 126.
(Settlement Commissioner's para. 15 seems to be wrong on this point.)
Commissioner's para. 25, appendix I.
Appendix I. (This Appendix shows the assessment as Rs. 2,69,487. Ubari tenures account for the difference, but the figures in Appendices IX. and XVIII. do not exactly tally.)

The new settlement was for Rs. 2,54,974, or Rs. 11,486 (4·4 per cent.) less. It cost Rs. 1,58,000. The ascertained assets being estimated at Rs. 4,54,583, the revenue incidence is 56 per cent. The rate per cultivated acre was Re. 0-10-9; the *maxima* in the two tahsils were Re. 0-15-11 and Re. 0-13-10. The assessments fell at 17 per cent. on the estimated gross outturn of the whole district at settlement.

Circle soil-rates (for six soils) were got by personal inquiry; they were converted from the *máni* to the acre, applied to the classified village area, and assessments was made on the resulting rental according to circumstances. Produce rates, at one-sixth for the Government share, were used in villages paying rent in kind. Plough rates here, as elsewhere, seem to have been of little real use.

Another result of the settlement was the demarcation of 466,254 acres of surplus waste, including 74,799 acres of culturable land. The waste remaining attached to villages was 376,651 acres of arable and 226,873 acres of unarable land.

Appendix V.

Report para. 131.

Tenures as recorded at settlement were as follows:

Zamindari estates	...	981
Imperfect pattidari	...	214
Perfect ditto	...	14
Bhayachara	...	11
		1,220

Para. 156.

Chapter V.

Here, as elsewhere, the tendency on the part of the Native subordinates was to register farmers as proprietors, in place of the old malguzars who had been broken down by the previous assessments Old malguzars who had sub-let their estates, or had made a temporary transfer of them, were similarly excluded from the first drafts of the proprietary register, chiefly because there had been a rule, under the old Saugor and Nerbudda revenue system, by which revenue engagements became null and void in such cases, and the sub-lessee took the place of the malguzar. Again, a number of old malguzars had thrown up their leases in the disastrous year which followed the expiration of the 20-years settlement. In all these cases the malguzars were, as far as possible, restored to their position as the persons with whom settlement was made. But prior *bonâ fide* transfers of rights and interests by malguzars were respected. In taluqdari estates the sub-lessees were protected by the grant of (1) inferior proprietary rights, or (2) proprietary rights in their sîr, or (3) occupancy rights in the lands in their cultivation. Rights of plot and parcel holders, whether given as an equivalent for the holder's share in the estate, or otherwise arising, were recorded. The result was as follows:

Paras. 128, 121—125. Appendix VIII.

Estates where old malguzars were confirmed	...	679
Ditto where old malguzars restored	...	256
Ditto where proprietary right was awarded to farmers	...	144
Ditto given for loyalty	...	72
Ditto Government estates	...	9
Ditto Government waste	...	31

Appendix XI.

and as regards proprietors—

	Number of persons.
Zamindars ...	... 3,613
Taluqdars ...	... 37
Inferior proprietors	... 127
Plot and parcel holders	... 2,887

Appendix XVII.

The percentage of proprietary (zamindars') cultivation was 32·3.

Para. 132.

Before the end of 1866, cultivation had increased by 10,000 acres, and the Settlement Officer was then of opinion that on the next settlement the demand might be raised (including assessments on expired

life-free tenures) to three lakhs of rupees. The settlement expires for half the district on the 30th June 1894, and for the other half on the 30th June 1895.

The settlement returns show only ·005 of the cultivated area as irrigated.

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	2,55,547
	1869-70	2,63,377
	1870-71	2,63,655
	1871-72	2,63,992
	1872-73	2,64,130
	1873-74	2,64,339
	1874-75	2,64,425
Half year ending 30th September 1875		1,47,595
Revenue year	1875-76	2,64,515
	1876-77	2,64,515
	1877-78	2,64,507

SAGAR.

Area ... 4,005 *sq. miles.*
Population ... 527,725.

Pages 12—14.

DEMARCATION began in March 1854 and ended in the beginning of 1856. Measurements, interrupted by the mutiny, were finished in 1861. Assessments seem to have been completed by November 1865; and the preparation of records prolonged operations till January 1867. The settlement occupied about ten years* altogether. It resulted in a reduction of the demand from Rs. 5,20,895 to Rs. 4,29,672 (*i. e.*, by Rs. 91,223 or 17½ per cent.) at a cost of Rs. 2,84,134, part of which is to be ascribed to loss of records in the mutiny. There was a Settlement Officer, with one European and one Native assistant.

* November 1853 to July 1857 ... Yrs. 2 Mths. 8
October 1859 to January 1867 ... Yrs. 7 Mths. 3
Yrs. 9 Mths. 11

Part II., paras. 562 (and note), 568. Settlement Commissioner's paras. 23, 25, make the previous assessment Rs. 5,26,802, and the new one Rs. 4,32,389.

Sâgar came under British rule in 1818. The first settlements, based on the *kamil jama* of the Mahrattas, were invariably far too heavy. They were as follows:

Page 105.

Part II., paras. 234, 559, 561.

		Rs.
1819 to 1823	...	5,88,104
1824 to 1828	...	6,49,701
1829 to 1833	...	6,27,958
1834 to 1854	...	6,09,615

The last or twenty-years settlement was continued, with remissions, till 1863. The average annual realisations in the 30 years were only Rs. 5,34,201, and the ultimate demand, as noted above, was Rs. 5,20,895. The result of these settlements was the general deterioration of the district.

Para. 563. Review, para. 2.

Circle soil-rates seem to have been got in all cases by analysis of rent-rolls. They varied from Rs. 2-4-0 to 2 annas. The deduced revenue rates (at 50 per cent.) were corrected by plough and produce rates (the former does not appear to have had any value as a test). The incidence of the assessments ranged from 12 annas 9 pie to 7 annas 3 pie per cultivated acre by parganas, from 12 annas to 10 annas 3 pie by tahsils, and averaged 11 annas 2 pie over the entire district. The total assessments were equivalent to 50·6 per cent. of the estimated assets.

Paras. 104, 105, 160, 246, 284, 336, 380, 424, 461, 549, 564.

Paras. 107, 108, 114, 180, 255, 291, 346, 387, 558: General Assessment Statement and Settlement Commissioner's para. 27. Statement No. XI., however, shews the tahsili revenue rates as ranging from 12 annas 3 pie to 10 annas 5 pie, and the district average as 11 annas 5¼ pie.

Government waste lands were demarcated for the first time to the extent of 4,79,506 acres, of which 20,130 acres are forest, and the rest yielded Rs. 11,684 in 1867, besides 8,575 acres sold.

Para. 564.

Commissioner's para. 18.

The settlement was made with actual or hereditary malguzars. Tenures were chiefly zamindari and pattidari, with few bhayachara estates, and only two taluqas, in both of which the old lessees got under proprietary rights, subject to a malikana of 30 to 55 per cent. on the revenue. Similar rights were recognised in 13 malguzari villages. There were altogether 6,179 proprietors recorded in 1,386 villages. In 27 villages, out of a total of 1,977, no proprietary right was claimed. They were ordered to be offered to State pensioners in commutation of pension. Excluding revenue-free holders, 1,291 tenants were declared proprietors of their holdings. Commissioner's para. 14. Report, para. 21. Commissioner's para. 15.

The percentage of proprietary (zamindars') cultivation was 16.

The reasons for the light assessment were infertility, backwardness, want of irrigation, and absence of roads. The present settlement apparently expires in 1895. Review, para. 4.

Little more than one per cent. of the cultivated area was irrigated at settlement. Statement VIII.

Subsequent statistics are as follows :

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	4,29,203
	1869-70	4,29,233
	1870-71	4,29,587
	1871-72	4,43,239
	1872-73	4,43,413
	1873-74	4,37,349
	1874-75	4,33,818
Half year ending 30th September 1875		2,72,908
Revenue year	1875-76	4,33,562
	1876-77	4,33,219
	1877-78	4,33,487

SEONI.

Area	...	3,252 *sq. miles.*
Population	...	299,856.

Paras. 265—267, 278, 292, 295.

PREPARATIONS for measurement were made as early as 1854, but a few boundary maps only had been done when work was stopped by the mutiny. It began again at the end of 1858; assessments were made between the end of 1863 and the end of 1865; and the records were completed by March 1867. Thus settlement operations, not including pre-mutiny work, lasted about eight and a quarter years. They were conducted by the Deputy Commissioner till August 1864, and thenceforward by a Settlement Officer. The result was a revenue increase of Rs. 95,931, or nearly 70 per cent., assessments being raised from Rs. 1,36,960 to Rs. 2,32,891, at a cost of Rs. 2,51,362.

Para. 284.

Page 88 of report. The figures in para. 406 of the Report, quoted in para. 45 of the Review, do not include *(a)* the old assessment of Raigarh, *(b)* the new assessments of resumed revenue-free holdings.

The district was part of the cessions made to the British in 1818. Seoni was first assessed at Rs. 1,27,000, and then at Rs. 1,52,527. From this point (1820) onwards the assessments of Seoni and the Raigarh tract together were as follows:

		Rs.	
1821	...	1,58,240	
1822	...	1,59,109	
1823—1827	...	1,81,501	
		Seoni.	Raigarh.
1828—1832	...	1,74,114	... Rs. 3,230; cancelled in 1830, and ten-years settlement made on average Rs. 2,603, followed by 20-years settlement on average Rs. 3,092 (1840—1861), and summary settlement of 1861 on Rs. 4,310.
1832—1837	...	Ten-years settlement at Rs. 1,67,892, cancelled in 1837, and 20-years settlement made on average Rs. 1,33,604. This seems to have been prolonged, with some modification, till the new assessments came on.	

Paras. 237½, 238, 243, 250.

Until 1848, the district was never properly able to pay its revenue. It had come over, like all ceded Mahratta districts, in an impoverished state, and the assessments of the first 30 years were too severe.

Circle revenue-rates were got by an analysis of rent-rolls, including those of revenue-free villages, checked by estimates on produce, former assessments,

and actual admitted and ascertained assets; guided also by the general principle that as prices were ranging very high, and were not likely ever to fall lower than double the prices before 1861, an all-round enhancement of 50 per cent. might be made with safety. The incidence of the assessments thus educed ranged by circles from 13 annas 3 pie to 1 anna 10 pie per cultivated acre; by parganas from 10 annas 9 pie to 2 annas 10 pie; and the general rate of the district was 5 annas 8 pie. The incidence upon actual assets at settlement varied by circles from 56 to 185 per cent., some circles containing villages practically unassessed before. The general incidence was 70 per cent., but subsequent enhancement of rents sank the percentage lower than 50.

Paras. 370, 371, 387.

Statement on page 88, para. 380.

Para. 498.

Waste lands to the extent of 725,998 acres in Seoni and 1,208,181 acres in Raigarh were demarcated and declared State property. Of the former area, 90,430 acres are culturable. The income from waste lands was thus increased from Rs. 4,250 to Rs. 19,571.

Statement I., para. 406.

Settlement was made with taluqdars, ubaridars, or malguzars, according to circumstances, as follows:

Statement II. Chapters XXII. and XXIII.

Number of villages	...	1,735
Superior proprietors (taluqdars and ubaridars)	...	299
Proprietors (malguzars)	...	2,995
Inferior proprietors	...	274
Shareholders ...	...	1,367

The inferior proprietors were those sublessees of the taluqdars and ubaridars who were confirmed in their leases, paying the superior proprietor the same percentage over and above the new assessment as they had paid over and above the old assessment. Shareholders generally accepted proprietorship in their holdings in lieu of their claims, leaving the proprietary right to the malguzar alone. A rule that one person only should be malguzar had been enforced in past years, and had gained a certain acceptance among the people. The above figures apparently shew that it was partially departed from at settlement.

Review, para. 30.

The percentage of proprietary tillage was 23, besides nearly 4 per cent. cultivated by sublessees.

At settlement the cultivated area was only 662,675 acres, to a culturable area (exclusive of cultivation) of 707,150 acres.

Statement III.

The present settlement expires apparently in October 1894 and October 1895.

Paras. 285, 292.

Subsequent statistics are as follows :

	Years.		Land Revenue Collections. Rs.
Financial year	1868-69	...	2,21,662
	1869-70	...	2,21,843
	1870-71	...	2,21,820
	1871-72	...	2,21,813
	1872-73	...	2,21,824*
	1873-74	...	1,37,916
	1874-75	...	1,39,203
Half year ending 30th September 1875			1,01,881
Revenue year	1875-76	...	1,47,428
	1876-77	...	1,48,559
	1877-78	...	1,46,449

* NOTE.—Five hundred and thirty-three square miles were transferred from Seoni to Balaghat in 1872-73.

BHANDARA.

Area ... ... 3,922 *sq. miles.*
Population ... 564,813.

SETTLEMENT operations began in the winter of 1858-59 and lasted till March 1867, or about eight and a half years. They were conducted by the Settlement Officer of Nagpur till the middle of 1861, and thenceforward by a separate Settlement Officer, except for 21 months, from June 1862 to March 1864, when they were in charge of the Deputy Commissioner. Their result was an increase of revenue from Rs. 4,35,779 to Rs. 5,32,357, *i. e.*, by Rs. 96,578, or 22 per cent., at a cost of Rs. 2,96,500. Para. 3. Para. 194. Para. 3.

Government waste lands to the extent of 1,434,080 acres were demarcated, and 550,161 acres of this area were made State property. At date of report, leases of this land were giving Rs. 42,535, exclusive of the land revenue noted above; the remainder, 883,919 acres, was settled with 36 zamindars (taluqdars) for three years only, thus reserving the right of the State to share in future increases of value of forest produce. Paras. 158, 194, 160.

Under Mahratta rule, during the British protectorate (1818-1830), and from the lapse of the district in 1853 to 1864, summary settlements were made yearly on the village rent-rolls. During the last of these three periods, a deduction of 10 per cent. used to be made from the recorded assets *plus* the estimated assets of sîr lands; and the revenue demand was fixed with reference also to the average of the three preceding years. The figures for quinquennial periods are given below: Paras. 132 to 145. Para. 164.

Year.	Revenue. Rs.
1819	3,80,697
1825	7,48,621 (?)
1830	5,01,665
1835	4,91,992
1840	5,41,795
1845	4,59,987
1850	4,58,444
1855	4,13,144
1860	4,41,998

Circle soil-rates were got by analysis of the rent-rolls, and by comparison of rates sanctioned in other districts, and the Paras. 186 to 190.

revenue-rates calculated from them were corrected by the village 'plough' and 'produce' jamas, by the village soil-rate jama, the existing jama, former jamas, village history, and the Settlement Officer's personal opinion. The incidence of the revenue ranged by parganas between 10·2 annas and 6·5 annas, and for the whole district it was 8 annas 5½ pie per acre of cultivation and 59 per cent. on assumed assets as existing at settlement. There is nothing to shew the estimated incidence on gross outturn.

Paras. 156, 194, 192.

Para. 193.

Paras. 200, 201, 212.

Settlement was made with (1) malguzars and (2) zamindars (*i. e.*, taluqdars). The former represented the patels of previous revenue history, modified by modern changes. In 91 per cent. of cases, settlement was made with the malguzars in possession (of whom, again, 55 per cent. were 'old watandars'), and in 9 per cent. of cases possession was restored to 'old 'watandars' or persons with prescriptive right. The zamindars in most cases were declared absolute proprietors, but where the sub-lessees' claims were sufficiently strong, a sub-settlement was made, and malikana fixed. In some villages a 'shikmi zamindar' stood between the zamindar and the sub-lessee. These villages were settled with the zamindars, but the 'shikmi zamindars' were granted proprietorship of their sub-taluqas, free from malikana, and guaranteed the whole of the rents from the sub-lessees, or the whole of the malikana payable by the latter where recognised as sub-proprietors. The zamindar's proprietary right under this arrangement would appear to be purely nominal, consisting merely in the privilege of collecting the revenue from the 'shikmi zamindar'. The general result was as follows:

Paras. 228, 230.

Paras. 232, 234.

Malguzars.	Zamindars.	Inferior proprietors.
1,450	719	252

The malguzari *sharers* numbered 4,096. The proportion of cultivated area tilled by proprietors (exclusive of proprietors of holdings) was 32 per cent.

Para. 156.

Review, para. 3.

The assessments were regarded as light. The culturable waste was then 920,939 acres, to 1,007,926 acres under cultivation. The present settlement is for 30 years, and expires apparently in 1895 and 1896.

Para. 163.

The proportion of irrigated to cultivated area at settlement is shewn as 66⅔ per cent., reckoning rice lands (58 per cent. of cultivated area) as wet.

Subsequent statistics are as follows:

	Years.		Land Revenue Collections. Rs.
Financial year	1868-69	...	4,02,609*
	1869-70	...	4,03,341
	1870-71	...	4,03,451
	1871-72	...	4,03,503
	1872-73	...	4,03,796
	1873-74	...	3,99,728
	1874-75	...	4,03,120
Half year ending 30th September 1875			1,86,219
Revenue year	1875-76	...	4,01,551
	1876-77	...	4,02,871
	1877-78	...	4,03,735

* Excluding transfers to Balaghat.

NAGPUR.

Area	...	3,786 *sq. miles.*
Population	...	631,109.

Paras. 1, 2, 57. Title-page of Mr. Low's article (Supplement to Report).

SETTLEMENT operations began in 1858 and ended in March 1867, having lasted about nine and a quarter years. From April 1858 they were under charge of a Settlement Officer, with a Native assistant, as also an European assistant up to July 1861. The area under settlement at different times included also the districts of Bhandara and Warda. The result was a reduction of revenue demand from Rs. 8,76,661 to Rs. 8,30,232, *i. e.*, a decrease of Rs. 46,429, or 5·3 per cent. The cost was Rs. 4,04,730.

General Assessment Statement, columns 44, 45, para. 42, however, gives the reduction as Rs. 45,525.

Para. 58.

The district lapsed to the British in 1853, having previously been under protection from 1818 to 1830. Previous assessments at different periods were—

General Assessment Statement, columns 30—34.

		Rs.	
1827 to 1829	...	12,12,642	Nagpur.
1830 to 1832	...	12,14,677	ditto.
1842 to 1844	...	10,98,942	ditto.
1854 to 1856	...	11,31,641	ditto.
1856 & 1857	...	9,74,687	Company.

Reckoning the Nagpur rupee at 85 per cent. of the Company's rupee, the 1854-56 assessment (the first assessment under British rule) would be Rs. 9,61,895. The 1856 settlement seems to have been prolonged, with modifications, till the introduction of the present settlement.

Paras. 33, 34, 38, 39.

Circle soil-rates (there were six soil-classes) were educed from the rent-rolls, and corrected to suit probable rise of rents. They varied from six rupees to two annas per acre. Their application was modified by circumstances; and the returns from well-irrigated lands (where existing) and Sayer, were added to the result. The pargana revenue incidence varied from Rs. 1-5-7 to Re. 0-6-1, and the district average was Re. 0-13-4 per cultivated acre. On assumed assets at settlement the revenue incidence was 54·4 per cent.

General Assessment Statement, column 49.

Columns 36, 37, 45.

Columns 39 and 40.

Para. 45, Gazetteer, page 261.

Government waste lands, measuring 390,312 acres, were demarcated and appropriated. The revenue in 1866-67 was Rs. 14,000.

Settlement was made with malguzars classified as follows: Paras. 13—15.

	Villages.
Upwards of 30 years' standing...	477
Twenty to 30 years ...	782
Shorter periods	924
Total ...	2,183

Plot and parcel holders were declared proprietors or otherwise according to the usual conditions of length of possession and money spent on the land. In 132 villages a sub-proprietary right was recognised, subject to a malikana of 50 per cent. assets. These villages belonged to a revenue-free taluqa. The total number of proprietors, including revenue-free and quit-rent villages, was 6,898 persons in 2,495 undivided mahals, and 211 sets of sharers in 83 divided mahals. The proportion of the cultivated area tilled by proprietors was 35 per cent. Para. 19. Paras. 50, 17.

The decrease in revenue is ascribed to the fact that some of the old assessments were undoubtedly excessive, though their general incidence was less heavy than unequal. There were 562,704 culturable acres at settlement, besides the 1,266,761 acres cultivated. The railway was opened only on the 20th February 1867, and communications generally date their development from 1861. The present settlement is one for 30 years, expiring apparently in 1895-96. General Assessment Statement, columns 14—16. Mr. Low's article, pages 290, 292. Chief Commissioner's para. 3. Report, para. 55.

Only $1\frac{1}{3}$ per cent. of the cultivated area was irrigated at settlement. Statement 1.

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	7,91,788
	1869-70	8,11,252
	1870 71	8,12,166
	1871-72	8,12,609
	1872-73	8,11,865
	1873-74	8,11,209
	1874-75	8,13,434
Half year ending 30th September 1875		3,68,824
Revenue year	1875-76	8,16,226
	1876-77	8,18,106
	1877-78	8,21,813

CHHINDWARA.

Area ... ... 3,853 *sq. miles.*
Population ... 316,095.

Paras. 536, 543.

SETTLEMENT operations began in November 1862, and were completed by the end of October 1867, having lasted five years. For the first 11 months they were conducted by a Deputy Collector, and for the rest of the time by a Settlement Officer, with a Native assistant. The result was a reduction of revenue from Rs. 2,45,353 to Rs. 2,22,922, *i. e.*, by Rs. 22,431, or 9 per cent., at a cost of Rs. 1,84,500.

Paras. 538, 539.

Appendix XI.
Para. 481.

Government waste lands were demarcated to the extent of 789,220 acres. They gave an average extra revenue of Rs. 12,843 a year in the two years 1866 and 1867.

Para. 235.
Paras. 261, 383, and Appendix I.

When the district came under British protection in 1818, triennial settlements were introduced. The revenue demand from 1829 to 1837, and since the final lapse of the district, is shewn as follows :

			Rs.
1829-31	...	...	2,33,763
1832-34	...	...	2,40,656
1835-37	...	...	2,58,050
1853-55	...	...	2,59,405
1856-58	...	...	2,01,483
1859-61	...	...	2,21,950
1862	...	...	2,21,567
1864	...	...	2,45,323

Para. 237.

Under the *ad interim* Mahratta government, rack-renting had so reduced the malguzars that a large reduction was necessary in the first settlement after resumption.

Para. 257.

The soil rates of Baitul (previously settled by the same officer) were applied to this district. Three classes of villages were assumed ; for the first class the soil rates varied from Rs. 1-8-0 to 6 annas per acre, and for the second from Rs. 1-4-0 to 4 annas on unirrigated land (irrigated land had a rate of three rupees in both, *viz.*, double the rate of the best soil) ; the third class was simply assessed on its merits. The revenue rates at 50 per cent. were corrected by a 'plough jama' of little practical value, and by a 'produce jama', taking the Government share as one-sixth. The incidence of the new assessments varied by parganas from 10½

Appendices. II. and III.

annas to 2½ annas; between these extremes four parganas average 3 annas 9 pie, three parganas 6½ annas, and two parganas 8 annas per acre of cultivation. The district average was 6 annas 10 pie. The assessments, made at half assets, fell at 66 per cent. on the estimated assets existing at settlement.

Settlement was made with malguzars mostly representing the old patels. The tendency to keep the patelship in individual hands operated in some cases to the creation of separate pattis by assignments of land as an equivalent for shares; in other cases, ex-sharers became rent-free proprietors of their holdings. Some few cases of genuine pattidari tenure were also found. Altogether, there were 2,788 proprietors in 1,435 mahals. Sub-proprietary rights of 29 old farmers were recognized in one taluqa,* subject to a malikana. Proprietary right in holdings was recognized on the usual condition. There were twelve jagirs, in which something like the custom of primogeniture prevailed; these were not regularly settled, but the relations between the jagirdars and their lessees were ascertained, and a quit-rent (amount not stated) was taken as usual from the former.

Paras. 178—182, 192, 196.

* Resumed mukhta, held in ordinary malguzari tenure by the heir of the mukhtadar.

Paras. 523—535.

The percentage of proprietary cultivation was 13·4.

The Settlement Officer was of opinion that not much good soil was waste. The culturable waste was shown as 312,335 acres, against 480,191 acres under cultivation; but these figures were distrusted by the Settlement Officer as including large areas of pasture land and poor soil. Settlement was made for 30 years, expiring apparently in 1896.

Paras. 259, 260.

Appendix II.

Commissioner's last paragraph.

Irrigation at settlement covered only 1½ per cent. of the cultivated area.

Appendix II.

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	2,10,709
	1869-70	2,12,380
	1870-71	2,12,380
	1871-72	2,12,380
	1872-73	2,12,380
	1873-74	2,12,388
	1874-75	2,26,610
Half year ending 30th September 1875		1,05,954
Revenue year	1875-76	2,15,111
	1876-77	2,15,463
	1877-78	2,16,379

CHANDA.

Area ... ... 9,700 *sq. miles.*
Population ... 534,431.

Para. 288.

SETTLEMENT operations began in September 1862 and lasted till the end of 1869, or about 7¼ years. They were conducted by a special officer for about four years of the entire period, and the Deputy Commissioner had a European assistant under him in the settlement for about two years more. The result was to lower the revenue by Rs. 14,926, or 5·79 per cent., viz., from Rs. 2,57,916 to Rs. 2,42,990, at a cost of Rs. 2,25,464.

Para. 353.

Commissioner's paras. 8, 38.

Commissioner's paras. 14, 18.

Government waste lands measuring 1,443,200 acres were demarcated, and yielded an extra revenue of Rs. 23,864 in 1868-69.

Paras. 280, 281, 283, 284, 286.

The average collections under Mahratta rule for the ten years next before the British protectorate of 1818—1830 are shewn as Rs. 3,34,277 per annum. During the protectorate there were a biennial, a triennial, and two quinquennial settlements, and the revenue in three given years was as follows:

	Rs.
1818-19	2,24,912
1824	3,53,829
Last year of last quinquennial settlement (1833) ...	4,85,615

Paras. 301, 302—304. Appendix VII.

Oppression and over-assessment ensued on the restoration of Mahratta rule; and when the district finally lapsed, the revenue demand stood at Rs. 3,26,196, which had been reduced by abolition of Rs. 53,530 transit duty, and by successive triennial settlements, to Rs. 2,65,196 when the regular settlement began in 1862-63. The demand and collections since 1853 are given as follows:

	Demand. Rs.	Collections. Rs.
1854-55 ...	3,26,196	3,09,945
1855-56 ...	3,05,117	2,37,616
1856-57 ...	2,97,372	2,41,386
1857-58 ...	2,73,035	2,37,702
1858-59 ...	2,04,994	2,35,440
1859-60 ...	2,65,599	2,34,038
1860-61 ...	2,65,796	2,26,609
1861-62 ...	2,65,137	1,85,985
1862-63 ...	2,65,137	2,11,635
1863-64 ...	1,99,042	1,88,820
1864-65 ...	2,62,230	2,55,849
1865-66 ...	2,57,289	2,56,635
1866-67 ...	3,20,023	3,19,566
1867-68 ...	1,25,463	1,25,312
1868-69 ...	2,41,785	2,40,659

These figures, however, do not tally with those given in the body of the report, and the great decrease in 1867-68 is unexplained.

Circle soil-rates were got by analysis of the rent-rolls, shewing the relative rental value of soils; by collation of the rents of rent-free patches held by under-tenants, and of 'privileged tenure estates', shewing the absolute rental value of soils; by personal converse; and by comparison of rates already sanctioned in adjoining parganas. The resulting rates were raised to meet anticipated rise in rents; they were checked by plough and produce rates (the former, as usual, of little practical utility); and their application was regulated by individual circumstances. Wet land was estimated at from three to ten times the rental value of dry land. The incidence of the assessments on cultivation was as follows:

	Per acre. Rs. As. P.
In four parganas ...	0 4 7
In two ditto ...	0 7 5
In four ditto ...	0 8 9
In one pargana ...	1 2 3

On the whole district it was 7 annas and 9 pie per cultivated acre; 66·4 per cent. on settlement assets, after a partial re-adjustment of rents; and 2·66 per cent. on the estimated value of gross outturn. Para. 318. Commissioner's para. 20.

The twenty zamindaris or Gond chiefships of Chanda pay a nominal 'takoli' or tribute of Rs. 2,205. Para. 329.

Settlement was made with malguzars who were mostly strangers, the old patels having been ruined by the Mahrattas. The results were as follows: Paras. 367, 369. Commissioner's para. 26.

	Number of persons.
Old patels restored ...	132
	Number of villages.
Malguzars of less than 50 years' standing	859
Ditto ditto 20 years' ...	511
Resident malguzars	368 (but these often own several villages each).

Plot and parcel holders were declared as below:

	No.	Average area. A. R. P.
Khalsa ...	3,914	27 2 3
Zamindari ...	149	103 0 6

In zamindari lands they were holders of entire villages founded by them; these were 117 in number.

The culturable uncultivated khalsa area at settlement was 893,473 acres, to 544,066 under cultivation. The khalsa settlement is for 13, 20 and 30 years, expiring apparently in 1880-81, 1887-88, and 1897-98; the zamindari settlement is for 20 years.

Less than 2 per cent. of the cultivated area at settlement was protected by irrigation. But this perhaps refers to cane and garden crops only.

Subsequent statistics are as follows:

	Years.	Land Revenue Collections. Rs.
Financial year	1868-69	2,39,443
	1869-70	2,39,841
	1870-71	2,40,470
	1871-72	2,41,360
	1872-73	2,41,117
	1873-74	2,41,044
	1874-75	2,41,033
Half year ending 30th September 1875		1,20,383
Revenue year	1875-76	2,40,671
	1876-77	2,40,688
	1877-78	2,40,683

R. D'R.—Home, Rev. & Agri. Dept. Press—No. 592—28-1-80—300.

PUNJAB.

PROVINCIAL SUMMARY.

Previous settlements of the Punjab.

THE earliest regular settlements in the Punjab are those which were made in the Delhi and Hissar divisions, then forming part of the North-Western Provinces, between 1836 and 1847; but parts of these divisions were not completely brought under regular settlement till 1863. The rest of the province was summarily settled after annexation, and these summary settlements were succeeded by a regular settlement made between 1846 and 1855 in the territories first annexed, and between 1849 and 1859 in those which became British territory after the second Sikh war. This settlement was for various terms, from 10 to 30 years. It did not extend to the frontier districts,* where no regular settlement was made till much later. Revision of the old regular settlements has been going on since 1863. It has been completed in seven districts,† and the frontier districts noted above have been regularly settled between 1868 and 1880. The last of the old regular settlements (Firuzpur) will expire in 1885. The first of the revised settlements (Amritsar) will expire in the same year.

In the Punjab, as in the Central Provinces, all the summary settlements made in the first few years after annexation fixed the revenue demand at much too high a figure. It was based on the last Sikh collections in grain, converted into money at ruling prices. A rapid fall of prices followed, and the revenue demand had to be considerably reduced.

Administration Report of 1872-73, pages 16 & 17, paras. 45—48.

Settlement Law.

The existing law of settlements in the Punjab is Act XXXIII. of 1871. The settlement is by 'estates,'‡ corresponding exactly to the mahals of the North-Western Provinces; the field survey was executed by patwaris and amins ;§ and the record of rights presents the same general features. A Punjab settlement officer has powers similar to those enjoyed by settlement officers in Oudh, as regards the

* Hazara, Peshawar, Bannu, Dera Ghazi Khan, Dera Ismail Khan, Kohat (not quite finished).

† Amritsar, Gujranwala, Gujrat, Lahore, Montgomery, Gurgaon, Jhang (not quite finished).

‡ An estate is defined in the Punjab Land Revenue Act (XXXIII. of 1871) as "a village or other local area with which a separate settlement is made."

§ A table shewing the work done by the Revenue Survey in the Punjab, its dates, and cost, will be found further on. For the reasons given in the North-Western Provinces Note, no account has been taken of this survey in estimating the financial results of settlement.

judicial decision of disputes relating to land and rights and interests in land, which may arise while settlement operations are in progress. Such questions are not referred, as in the North-Western Provinces, to the civil courts, but are dealt with by the revenue authorities both in the first instance and on appeal. But any person who considers that he is aggrieved by any entry made in a record of rights, may, after such record of rights has been sanctioned, bring a suit in a civil court for a declaration that such entry is incorrect, and that a different entry ought to have been made: on condition, however, of making the Government a defendant, as well as every person interested in such entry.

General characteristics of Punjab Settlements.

The method of assessment and certain peculiarities of land tenure remain to be noticed. Both are closely connected with the fact that the Punjab is a country of cultivating proprietors. Hence arise complexity of tenure on the one hand, and on the other the necessity of adopting some other guide for assessment than rent-rates, rents being mostly in kind, not regulated by competition, and thus affording no clue to the value of the land.

Method of assessment: Revenue-rates, and the 'aggregate to detail' process.

The method of assessment differs from that in the North-Western Provinces and Oudh in two main points. Revenue-rates are used instead of rent-rates; and the process followed, at least hitherto, has been that of deducing the assessment of the village from the assessment of the circle or the pargana. In the earlier settlements, villages within assessment-circles were classed according to their capacity, or according to the actual incidence of the assessment. Then revenue-rates were got either from produce-estimates for different crops and soils, or from rent-rates obtained by inquiry, or from existing rent-rates in approved villages, or by the simple process of taking the actual revenue incidence per cultivated acre in fairly-assessed villages. These rates were applied to the class, the circle, and the pargana, and the result was compared with the pargana jama as previously estimated in the lump. The backward process of re-distribution now began, till by constant correction the village assessments were fitted together into what appeared to be the proper circle or pargana total. Or the whole pargana rental was estimated at assumed rent-rates, and then the latter were reduced in the proportion necessary to bring out such a pargana rental as would correspond to a

Shahpur, Rawal Pindi, Hissar, Hoshyarpur, Thanesar.

Jullunder, Hoshyarpur, &c.

Ludhiana.

Multan, Sirsa.

fair pargana jama. Or all-round revenue-rates on the principal natural divisions of soil, or a uniform rate on all cultivated land, would be applied, and the result compared with the estimated pargana jama. Or the initial assumption would be that a certain all-round percentage of reduction was required, and the revenue-rates assumed for wet and dry lands would be modified so as to bring out this result over the area selected. Or, finally, the village assessments would be roughly estimated, and then distributed over the various classes of soil according to their assumed relative fertility. The common feature of all these methods is the evolution of revenue-rates by a empirical process, first assuming the results which are to be obtained, and then manipulating the revenue-rates till they give those results.

Kangra.

Firuspur, Jhelum.

The Directions to Settlement Officers.

The method of the later settlements differs only in the circumstance that produce-estimates, more or less elaborate, invariably enter into the calculation of the pargana or circle jama. In the Directions to Settlement Officers published by the Punjab Government in 1875, produce-estimates are prescribed as a main basis of assessment. After survey and formation of assessment circles, with the usual collection of village statistics, the settlement officer "should proceed to frame, for "each assessment circle, estimates of the "value of the share of the produce which "it is proposed to take as the basis of the "assessment. For this purpose average "yield rates for the different crops grown "should be determined, and applied to the "total area under each crop. When the "same crop is grown both in irrigated and "unirrigated land, or in different soils, the "rates of yield from which are so different "as to make separate rates necessary, the "produce from each description of land "should be separately estimated. Crops "grown as fodder for the cattle employed "in agriculture should, as far as possible, "be excluded. Allowance should be made "for the variations, both in the area under "crops, and in the amount of yield, which "are liable to be caused by vicissitudes "of seasons. The value should be calcu-"lated at the rates which a consideration "of the harvest prices of past years (as "ascertained from grain-dealers' books, for "20 years if possible) and of the present "circumstances of the locality, may warrant "the assessing officer in applying."

Directions to Settlement Officers, para. 60.

Para. 58.

The settlement officer is then to compare the result of the produce-estimates with

Paras. 61, 63.

the pargana or circle assessment as estimated by himself or by persons whom he has consulted. The next step is to frame revenue-rates upon soils or classes of land. These, it is said, may be got in various ways; but the only way specified is that of distributing the circle jama over the soil areas according to assumed relative fertility.* There are no prescribed classes of soil; but the settlement officer is expected, without going into minute and arbitrary distinctions, to take account of such substantial diversities, natural or artificial, as are locally known and recognised by proprietors and tenants. The revenue-rates, when obtained, are to be tested by application to villages known to be already fairly assessed. "The revenue-rates, and the opinions which the "assessing officer has formed as to the assessment which individual estates might "properly bear, will thus act as a mutual "check upon each other, and, where they "differ unaccountably, will suggest further "enquiry and re-consideration. Other tests "are furnished by rates on ploughs, or on "wells, where the system of distributing "the revenue by such rates is familiar. "After determining a fair average-rate for "each plough or well, the total revenue "which the application of such rate would "give for the assessment circle is calculated "and compared with the produce-estimate."

* Another method is to take a unit area, divide it among the principal crops in their proper proportions, and the Government share of the aggregate money value, divided by the number of acres in the assumed unit area, gives the revenue-rate per acre. This was the plan followed in Dera Ghazi Khan. It resembles that of Bahraich in Oudh, and of the sub-division of Nellore in Madras.

Para. 65.

The Revenue-rate Report.

The revenue-rates for all the circles of a pargana or tahsil, with the proposed assessment of each circle as a whole, are reported to the Financial Commissioner, and when they have received his approval, the settlement officer proceeds to determine the amount at which each estate should be assessed. Having done this by taking into account "all the information which "has been gained as to the circumstances "of the estate," a final report is submitted, showing the result of the distribution of the circle assessments over the villages of the circle, and, on approval, engagements are taken from the zamindars on such terms as the Financial Commissioner may prescribe. The apportionment of the revenue liability among the co-sharers is left as much as possible to be arranged by themselves. The commonest methods are a rate on wells; on ploughs; on all-round area; on area irrigated and unirrigated; on soils; or distribution according to shares.

Paras. 66, 67, 111.

Para. 52.

Ratio between assessments and gross produce.

As for the Government share of the produce, it was ruled by the local Government in 1860 that for the future no assessment should be made at a higher rate

than half assets. The proportion assumed in subsequent settlements has varied a good deal; it has most often been one-sixth* of the gross produce, but sometimes one-seventh, one-eighth, or one-tenth,† or half net produce‡, or 12 per cent. of gross produce on dry, and 24 per cent. on irrigated lands.§ But these assumed proportions were modified (and in some cases very considerably) so as to bring out fair results. The most usual standards of comparison were estimates of assessment obtained from the settlement officer's subordinates, or from the zamindars, or by applying the average incidence per plough of the estimated circle assessment to the number of ploughs in the village to be assessed.

* Amritsar, Gujranwala, Hazara, Peshawar, Sialkot, Gujrat, Rohtak, Gurgaon.
† Muzaffargarh, Dera Ghazi Khan, Jhang.
‡ Bannu, Karnal, Dera Ismail Khan.
§ Kohat.

Treatment of irrigated land.

Irrigated land has been variously dealt with in the Punjab. Consolidated revenue rates are the rule in most districts. But six districts* have been settled on the principle of a separate water-rate. In Gujrat and Gujranwala irrigation is entirely from wells, and the water-rate has consequently taken the shape of a rate on wells, varying from 5 to 20 rupees per well, in addition to the dry revenue-rate upon the land irrigated. Montgomery and a small part of Lahore are irrigated by the Sutlej inundation canals, and the rest of Lahore, Gurdaspur, and Amritsar by the Bari Doab canal. Here the water-rate (called water-advantage rate) is a rate per acre, in addition to the dry valuation of the land, upon all canal-irrigated lands while lands under wells are treated in the same manner as in Gujranwala and Gujrat. The revenue from canal-irrigated lands under this system fluctuates according to the area irrigated each year, but the revenue from well-lands is known, and is considerably less than could have been obtained on the old plan of consolidated rates. For three districts† the loss on this account has been estimated at $3\frac{1}{4}$ lakhs a year, and in all six districts the assessments were regarded as so light that the original intention was to sanction them for ten years only, but as the jamas had meanwhile been announced for 20 years, they stand till 1885, 1887, and 1888. It is an open question whether this method of assessing well lands will be continued or abandoned at next revision of settlement. As for canal lands, the separate water-rate is a great improvement upon the old system under which land happening to be irrigated at settlement was assessed accordingly, and was liable to pay at this rate for the whole term, whether canal water was

* Gujranwala, Gujrat, Lahore, Montgomery, Gurdaspur, Amritsar.

† Gujrat, Gujranwala, Lahore.

Famine Papers, Vol. II., p. 653.

continuously used or not; while, on the other hand, lands not irrigated at the time of assessment continued to pay dry rates, though canal irrigation might be subsequently extended to them. This principle of a separate water-rate has accordingly been adopted in the revisions of settlement now going on, and has been incorporated in the Canal Act. Thus, in the districts under the Western Jumna canal,* and on land irrigated by the Agra canal in Gurgaon, the land revenue due to canal irrigation will henceforth be separately shewn as a part of canal income. An estimate of this revenue has been included in the revised assessments of the Delhi and Rohtak districts in the present note.

* Umballa, Delhi, Karnal, Hissar, Rohtak.

In the Indus alluvial tracts of Dera Ismail Khan the calculated difference between wet and dry revenue-rates forms the lump water-rate assessment of the mahal, and is distributed by the people over all the wells and Persian wheels in the village. The settlement of this district is also remarkable for the system of fluctuating assessment adopted in certain tracts dependent upon hill torrents. These tracts are assessed at quarter rates, full rates being taken only on the annual area of cultivation. Further south, in Sindh, such lands are not assessed at all, but are leased out by annual auction.

Land in the Punjab is mostly held by communities of cultivating proprietors. Only 44 per cent. of the cultivated area of the province is tilled by tenants, and on rather more than half the area so tilled rent is paid in kind. Zamindari tenures, as understood in the North-Western Provinces, are comparatively uncommon; as a general rule, the villages are pattidari or bhayachara. In parts of Kangra, village communities did not exist for revenue purposes until they were created by grouping together small hamlets which had been independent of each other before settlement. Similarly, in parts of the Multan and Derajat divisions, the well is the true unit of property; but where the proprietors of several wells live together for mutual protection, or their wells are sufficiently near to be conveniently included within one village boundary, the opportunity has been taken to group them into village communities. Throughout the rest of the province the village community is an entirely indigenous institution.

Administration Report of 1872-73, page 15, para. 41.

Famine Papers, Vol. II., pp. 554, 558.

Land Tenures.

In the Trans-Indus tracts, inhabited chiefly by a Pathan population, the periodical re-distribution of holdings is not

Administration Report of 1872-73, page 12, para. 35.

uncommon among the proprietary bo of the same village, but exchang between distinct villages have been p a stop to under British rule, by substit ting final partitions, or adjusting the r venue demand according to the value the lands actually held by each village.

Page 14, para. 38.

Another peculiar tenure, found in son of the southern districts, is that of t owner of a well having a heritable a transferable right distinct from that of t owner of the land irrigated who pa him a fixed proportion of the produce.

Revenue Report of 1875-76, para. 142.

Taluqdars.

Taluqdars in the Punjab have no co nection with the land, nor any contr over its cultivation, but receive an allo ance fixed by the Government in ackno ledgment of rights formally exercise but now obsolete. Their status resembl that of taluqdars in the North-Weste Provinces, and their dues are similar paid by a percentage on the Governme demand. Settlement is in all cases ma with the immediate proprietors, who a thus full zamindars, not inferior propri tors like those of Oudh.

Administration Report of 1872-73, page 14.

Plot-holders.

As in the Central Provinces, ind pendent rights of property in plots of la within villages have been largely reco nized. The plot-holders are not entitl to share in the common profits, nor a they liable for anything more than t revenue of their plots, the village charg ordinarily paid by proprietors, and t quit-rent, if any, payable to the pr prietary body of the village. Such plo holders are usually either persons some way related to the proprietary bod though excluded from the village co munity, or tenants who have redeeme their rent by purchase or prescription, holders of resumed revenue-free lands.

Page 10, para. 29.

Revenue-free tenures.

Another feature common to the Punja and the Central Provinces is the lar number of estates held revenue-free, or which the revenue is assigned by t Government to private persons. Laps and resumptions of such tenures are o main source of increase in the khal revenue, that is, the revenue actuall realisable by the Government.

Financial results.

The following table shows the cost settlements now current in the Pu jab, and the immediate gain or loss revenue consequent upon their introdu tion. Certain points ought first to explained. The khalsa revenue of Raw Pindi, Shahpur, and Gujrat before settl ment has been calculated from the khal revenue after settlement. The costs of t Hissar settlement have been estimate from those of the Gurdaspur, Amritsa

and Sialkot settlements made about the same time, with allowance for the fact that the Hissar settlement was especially characterised as inexpensive. The figures for Gurgaon, Rohtak, Bannu, Gurdaspur, Amritsar, Sialkot, Montgomery, Jhelum, and Multan relate to khalsa and jagir revenue together. In all the other districts khalsa revenue alone is shown. In Delhi and Rohtak the settlement officer's returns include the revenue due to canals, that is, the difference between wet and dry assessments on canal-irrigated land; but in Karnal and Gurgaon the revenue on canal lands seems to have been calculated at dry rates only. Umballa, Sirsa, and Mozuffargarh have been omitted, as their figures are incomplete. Moreover, the settlement of Sirsa expired in 1876, though not yet revised, and that of Umballa expires this year (1880), while Mozuffargarh is now under revision of settlement.

In the districts marked (2) the current settlement is the second regular settlement. In the districts Gurdaspur—Montgomery the first regular settlements were for short terms only.

Year of settlement.	District.	Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
		Rs.	Rs.	Rs.		Rs.
1846-51 ...	Jullundur ...	10,90,666	10,71,666	—19,000	1·66	2,27,035
1846-52 ...	Hoshyarpur ...	9,18,120	9,01,198	—16,922	1·8	2,88,512
1848-52 ...	Kangra ...	7,27,151	6,83,793	—43,358	6·1	2,24,678
1847-54 ...	Ludhiana ...	7,59,078	7,36,833	—22,245	3	2,91,353
1851-55 ...	Firuzpur ...	3,77,409	4,46,385	68,976	18	76,780
1855-64 ...	Rawal Pindi ...	7,16,000	6,77,864	—38,136	5·3	1,69,225
1860-64 ...	Hissar(2) ...	4,68,904	4,26,123	—42,781	9	60,000
1854-66 ...	Shahpur ...	3,40,050	3,30,146	—9,904	3	1,75,240
1862-65 ...	Gurdaspur(2) ...	12,56,092	11,56,056	—1,00,036	9	81,088
1863-66 ...	Amritsar(2) ...	12,08,737	11,57,852	—50,885	4·2	1,51,332
1865-68 ...	Sialkot(2) ...	8,88,872	8,59,910	—28,962	3·3	82,715
1866-68 ...	Gujranwala(2) ...	4,20,046	4,38,604	18,558	4·4	1,34,867
1866-68 ...	Gujrat(2) ...	5,23,828	5,54,251	30,423	5·8	1,46,686
1865-69 ...	Lahore(2) ...	4,28,537	5,02,112	73,575	17	2,06,716
1868-73 ...	Montgomery(2) ...	3,23,741	3,18,789	—4,952	1·5	2,80,953
1868-74 ...	Hasara	1,61,958	2,21,155	59,197	36·6	3,71,885
1869-74 ...	Dera Ghazi Khan ...	3,14,015	3,49,843	35,828	11·4	3,25,426
1869-75 ...	Peshawar ...	6,35,420	6,80,816	45,396	7·15	4,73,643
1872-78 ...	Bannu	3,33,728	3,58,278	24,550	7	4,79,444
1872-79 ...	Dera Ismail Khan ...	4,74,045	5,55,849	81,804	22·3	4,68,756
1874-79 ...	Gurgaon(2) ...	11,14,499	12,78,363	1,63,864	14·7	4,50,000
1874-79 ...	Kohat	81,140	96,890	15,750	19·5	2,65,182
1871-80 ...	Delhi(2) ...	8,63,401	9,10,000	46,599	5·4	4,25,856
1872-80 ...	Karnal(2) ...	5,82,908	5,41,053	—41,855	7	3,74,672
1872-80 ...	Multan(2) ...	5,45,530	6,43,607	98,077	18	4,32,645
1873-80 ...	Rohtak(2) ...	8,95,976	10,62,260	1,66,284	18·7	3,08,762
1874-80 ...	Jhang(2) ...	2,67,365	3,60,179	92,814	34·7	3,31,224
1874-80 ...	Jhelum(2) ...	6,12,776	6,92,372	79,596	13	3,68,301
	TOTAL ...	1,73,29,992	1,80,12,247	6,82,255	3·94	76,72,976

These figures serve to give a general idea of the cost of settling the province for a term of 20 or 30 years, and the proportion of revenue gained. In fact, they show that the whole province at present is under settlements made between 1846 and 1880, which cost 69 lakhs to make, and which, on the whole, have raised the revenue demand 4·14 per cent., as compared with the years before settlement.

I.—The first regular settlements.

But settlement operations extending over so long a period obviously cannot be treated as a whole. The only point they have in common is that they are all current now; and this likeness will soon disappear as the older settlements come up for renewal in the course of the next few years. The right way to treat existing Punjab settlements is to divide them into two classes. There are the old settlements, that is, the first regular settlements made after annexation, and there are the new or revised settlements. The old settlements are current in seven districts, viz.,—

Jullundur.	Kangra.
Hoshyarpur.	Firuzpur.
Ludhiana.	Rawal Pindi.
Shahpur.	

A reference to the table above will show that they cost Rs. 14,52,823, and resulted in an immediate loss of revenue amounting to Rs 80,589. In Firuzpur alone was the revenue raised, and by as much as 18 per cent. Excepting this district, the settlement of the other six districts cost Rs. 13,76,043, and reduced the revenue by Rs. 1,49,565.

While on the subject of the first regular settlements succeeding annexation, it may be useful to quote also the results of such settlements not now current. They were made in the following districts. The percentage of gain (+) or loss (—) on the summary settlement revenue is shown opposite each district.

	Percentage.
Thanesar ...	... —18
Gurdaspur ...	... —6·18
Amritsar ...	... —10
Sialkot ...	... —24
Jhelum ...	... —8·7
Gujranwalla	... —17
Gujrat ...	... —5
Lahore ...	... —11
Montgomery	... +5
Multan ...	... —18
Umballa ...	... —13 to 21

Statistics of expenditure are forthcoming for the Gurdaspur, Amritsar, Sialkot, and Jhelum districts only, where the costs of settlement were Rs. 8,19,638, and the result was a reduction of revenue amounting to Rs. 4,56,755. It will be evident from all the above that the first regular settlements of the Punjab were by no means remunerative. But the reductions were necessary. They have been described by the local Government as a refund of revenue which should never have been demanded. In fact, the object of settlement work in the Punjab up to 1860 consisted almost exclusively in bringing the summary jamas, founded on an erroneous assumption of average prices, into accord with the actual

relative values of specie and agricultural produce.

Besides the districts already mentioned, there have been old regular settlements in six others, viz.,—

Hissar.	Karnal.
Delhi.	Jhang.
Gurgaon.	Rohtak.

In all these districts, except Hissar, the old settlements have expired. In Hissar the first regular settlement was made in 1840, and the second, made in 1860-64 at a reduction of 9 per cent., has still three years to run. Strictly speaking, the Hissar settlement should fall into the 2nd class, (*i. e.*, revised settlements); but it will be more convenient to reckon it with the old settlements, to which indeed it is nearer in point of date. Including Hissar, then, we have the following statistics for eight districts :—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
53,97,378	52,74,008	—1,23,370	2·29	15,12,823

II.—The revised settlements.

The new or revised settlements begin with that of Gurdaspur in 1862-65, and have extended up to date over all the districts shewn below Gurdaspur in the table on page 8. In the three districts of the Amritsar division (Gurdaspur, Amritsar, and Sialkot) the results have been a considerable loss of revenue. Montgomery shews a smaller decrease. The cause in all four districts is the separation of the water-advantage rate on canal-irrigated lands, and the substitution of a rate per well for the old average rates on well lands. The new assessments of Gujranwalla, Gujrat, and Lahore have been unfavourably affected by the same circumstance, though they are in excess of the old. The only other district where the new settlement has diminished the revenue demand is Karnal, with its loss of 7 per cent. Everywhere else there is an increase of revenue, varying from 36·6 per cent. in Hazara to 5·4 per cent. in Delhi, and the total result of the new settlements, as shewn in the table, appears as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,19,82,614	1,27,38,239	8,05,625	6·75	61,60,153

Letter No. 1302, dated the 13th September 1875.

Financial results of certain revised settlements differently calculated.

In a statement received from the Government of the Punjab, the results of the new settlements in ten districts are shewn differently. Neither the old and new assessments, nor the cost, agree with the figures of the district settlement reports. The reasons of the discrepancy are changes in the revenue-roll—from alluvion and

diluvion, lapse of revenue free tenures, and other causes—between the date of reporting the assessments and that of their actual introduction; while, as regards cost, the difference arises chiefly from inclusion of the Settlement Commissioner's expenses, besides those of the district settlement staff. This statement carries down the results of settlement, year by year, to 1874-75. Adopting the same method, it is now possible to carry down the figures to 1877-78 or 1878-79. The method of calculation is this: The change made in the revenue-roll by bringing on record the new assessments, whether an increase or a decrease, is taken as the permanent alteration made by settlement in the revenue of the district. But besides this there is the water-advantage rate to be considered in certain districts. This represents what, under the old settlement, was part of the revenue assessed on canal-watered lands. Consequently, it must be included to make the comparison fair. The proceeds fluctuate with the annual area of irrigation, so an average has been taken, extending from the date of bringing on record the new assessments to 1877-78 only, as the last Punjab irrigation report does not give separate figures for each district. The results are as follows:

Districts.	Annual gain (+) or loss (—)			Cost.
	Land revenue.	Water-advantage rate.	Net result.	
	Rs.	Rs.	Rs.	Rs.
Gurdaspur	—88,172	20,927	—67,245	81,088
Amritsar	—45,159	51,577	+6,418	1,51,332
Sialkot	—25,450	.....	—25,450	82,715
Gujranwala	+20,558	.....	+20,558	1,34,867
Gujrat	+30,352	.....	+30,352	1,46,686
Lahore	+73,511	62,898	+1,36,409	2,06,716
Montgomery	— 4,408	95,455	+91,047	2,80,953
Hazara*	+73,915	.....	+73,915	3,76,037
Dera Ghazi Khan	+41,752	.....	+41,752	3,25,426
Peshawar*	+45,396	.....	+45,396	4,73,643
Total ...	+1,22,275	2,30,857	+3,53,132	22,59,463

The gain was considerably greater in 1878-79, owing to the increased income from water-advantage rate, which amounted to Rs. 3,45,391 in the four districts concerned.

The above statement does not take account of progressive assessments cal-

* The Hazara figures of cost are taken from the Revenue Report of 1874-75. Those of Peshawar are from the settlement report of the district; in the Revenue Reports the Peshawar figures are mixed up with those of Kohat. The Peshawar revenue figures also come from the settlement report; they were incomplete in 1875.

culated to increase the revenue demand as follows:

District.	Year of increase.	Amount of increase.
		Rs.
Sialkot ...	1876-77	18,089
Ditto ...	1881-82	18,144
Gujranwala ...	1879-80	80,507
Gujrat ...	1883-84	38,958
Lahore ...	1872-73	3,679
Ditto ...	1882-83	42,844
Montgomery ...	various dates	14,173
Dera Ghazi Khan	various dates	24,567

The progressive jamas of Gurdaspur and Amritsar have been omitted, as partly included in the water-advantage rate averages up to 1877-78. For the six districts tabulated above, the increases on the dates shewn are equivalent, when spread over the whole term of settlement, to an annual addition of Rs. 95,719. On the other hand, the old *abiana* or water-rate of the Montgomery district, amounting on an average to Rs. 48,000 a year, ought to be credited to the old assessments. Making these changes, the result is capable of statement in the form subjoined:

Revenue-roll of year before settlement.	Net annual gain by settlement.	Per-centage.	Cost.
Rs.	Rs.		Rs.
57,67,208	4,00,851	6·93	22,59,463

Financial results of the remainder of the revised settlements.

For the remaining ten districts which have come under the new settlements, viz., Bannu and all the districts below it in the table on page 8, it is necessary to take the figures given by the settlement officers, as in most cases the new assessments have not yet been brought on the revenue-roll. The total results for these districts are as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
57,71,368	64,98,851	7,27,483	12·6	39,04,842

General provincial results.

From the calculations on the last three pages, a provincial total is obtained which differs considerably from the general table above, and is to be preferred as more approximately accurate. It is as follows:—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,69,35,954	1,79,40,918	10,04,964	5·94	76,76,128

Considered as a financial undertaking, the settlement of the Punjab may be divided into three periods. First, there are the old regular settlements, which, as above-noted, were made at a dead loss. Then there are the settlements of the Amritsar division and of those other districts similarly assessed on the principle

of separate water-rates. Here, including water-advantage rate and progressive jamas, the gain in revenue has been Rs. 2,74,568, and the costs of settlement were Rs. 10,84,357, so that the return is one of 25·3 per cent. on outlay, and the settlement would repay itself in four years. This brilliant result is explained by the comparative cheapness with which the settlements were effected (especially in the Amritsar division), and by the extension of canal irrigation. Finally, there are the settlements of the thirteen districts from Hazara to the end of the table on page 236. The return in their case is represented by a revenue gain of Rs. 8,81,144, or 17·4 per cent., on an outlay of Rs. 50,75,796, and the settlements will repay their expenses in about six years. But the actual gain to the State, as measured in realisable revenue, is less than this, for much of the revenue in the frontier districts is assigned away.

The Revenue Survey.

The following table shews the work done by the Revenue Survey in the Punjab:

Year.	District.	Square miles.	Cost.
			Rs.
1846-48	... Jullunder ...	1,911	65,205
1846-49	... Thanesar ...	2,324	
1846-51	... Umballa ...	1,965	
1847-50	... Ludhiana ...	1,150	1,94,442
1848-51	... Firuzpur ...	2,813	
1846-51	... Cis-Sutlej States ...	6,870	
1848-51	... Kangra ...	2,724	92,899
1850-52	... Gurdaspur ...	1,572	67,934
1851-53	... Amritsar ...	2,168	62,798
1851-53	... Sialkot ...	1,459	48,983
1851-54	... Lahore ...	2,971	79,984
1852-55	... Gujranwala ...	3,605	83,715
1853-54	... Gujrat ...	2,113	45,105
1853-56	... Montgomery ...	5,748	93,762
1853-56	... Jhang ...	5,233	53,361
1855-56	... Muzaffargarh ...	2,255	30,759
1854-58	... Multan ...	6,030	1,10,848
1854-59	... Shahpur ...	4,028	53,178
1855-59	... Leia ...	9,452	1,09,661
1855-61	... Derajat and Bannu ...	19,226	2,14,252
1863-70	... Peshawar ...	2,467	1,15,250
1865-69	... Hazara ...	3,260	2,23,506
1870-73	... Karnal ...	2,361	1,32,191
1872-74	... Delhi ...	1,285	69,306
1873-76	... Gurgaon ...	2,007	1,11,134
1870-77	... Derajat and Bannu ...	12,113	5,84,255
1875-77	... Rohtak ...	1,809	1,08,752
1876-79	... Sirsa ...	3,004	1,19,576

The total is Rs. 28,20,856. Omitting the Muzaffargarh and Sirsa figures, as also the cost of the old Leia and Derajat survey, the remaining expenses are distributed as follows over the three divi-

sions of Punjab settlements made in the preceding paragraph :

	Rs.
I.—Old settlements ...	4,05,724
II.—Seven districts with separate water-rate	4,82,281
III.—Remainder	14,58,603

It will be observed, however, that the Revenue Survey of those seven districts, as also of Jhang and Multan, was made for the old settlements, not for the settlements now current, and the cost, therefore, should not be charged against the current settlements. Thus it remains only to exhibit the cost of Revenue Survey for current settlements in division III. above. This, deducting Jhang and Multan, amounts to Rs. 12,94,394; and if it be added to the cost of settlement, the return on outlay falls to 13·8 per cent.

Revenue-rates in the various districts.

The district notes shew the revenue-rates used in assessment. In a province like the Punjab, where large areas of tillage depend mainly upon irrigation, the principal distinction between soils consists in the nature and quantity of their water-supply. In the majority of districts* the two grand classes of soil are dry and irrigated, the latter sub-divided according as the irrigation is from canals, wells, or floods, while dry lands are assessed at all-round rates irrespective of natural distinctions of soil, cultivation in all kinds of soil being equally precarious without water. The system of assessing irrigated lands in the seven districts bracketed together in the margin has been explained above.† The division of lands into homestead and outlying (or into manured and unmanured, or garden lands and other lands) is to be found in six districts‡ only. In all of these, except Rawal Pindi and Peshawar, outlying soils have been divided according to their natural qualities; while in Gurgaon, Karnal, and Rohtak the distinction is between irrigated lands, divided according to kind of irrigation, and dry lands classed according to natural soils (clay, loam, and sand). In Bannu the plan adopted seems to have been a minute classification of soils according to natural qualities, under the two main heads of irrigated and dry.

* Hissar.
Shahpur.
Gurdaspur.
Amritsar.
Sialkot.
Gujranwala.
Gujrat.
Lahore.
Montgomery.
Multan.
Dera Ghazi Khan.
Dera Ismail Khan.
Jhang.
Peshawar.
Kohat.

† See the 5th and 6th pages of this Provincial Summary.

‡ Umballa. Firuzpur.
Jhelum. Rawal Pindi.
Peshawar. Hazara.

In a statement compiled for the Government of the Punjab last year (1879), the following summary is given of the revenue-rates assessed on (1) irrigated lands, (2) sailab lands, *i. e.*, moist alluvial lands in the vicinity of, or annually inundated by, rivers, and (3) ordinary dry lands, *i. e.*, lands wholly dependent upon rainfall.

Punjab report in reply to the inquiries issued by the Famine Commission, Vol. II., pp. 635 to 637.

For several districts no statistics are forthcoming.

REVENUE-RATES PER ACRE.

District.	Kind of irrigation.	Wet lands. Maximum.	Wet lands. Minimum.	Sailab lands. Maximum.	Sailab lands. Minimum.	Dry lands. Maximum.	Dry lands. Minimum.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Jullundur	Wells	6 0 0	2 8 0	Not shewn		3 0 0	1 0 0
Hoshyarpur	Do.	5 4 0	2 0 0			3 4 0	0 4 0
Firuzpur	Do.	1 6 0	1 3 0	0 14 0	.....	0 9 0	0 6 0
Rawal Pindi	Do.	7 0 0	1 8 0	3 8 0	0 4 0	3 8 0	0 8 0
Hissar	Canals	1 4 0	0 12 0	No such rates		0 6 0	0 3 0
Shahpur	Wells	2 8 0	1 0 0	1 12 0	1 4 0	0 8 0	.....
Gujranwala	Per well	20 0 0	8 0 0	1 8 0	1 4 0	0 14 0	0 7 0
Gujrat	Wells	Not shewn		2 0 0	0 14 0	1 8 0	1 6 0
Lahore	Canal lands per acre	1 8 0	0 13 0	1 0 0	.....	1 0 0	0 5 0
	Well lands per well	14 0 0	6 0 0				
Montgomery	Canal lands per acre	2 9 5	0 14 0	Not shewn		0 13 0	0 6 0
	Well lands per well	30 0 0	10 0 0				
Hazara	Wells and streams	8 0 0	1 0 0	Not shewn		4 0 0	0 2 0
D. G. Khan	Wells and canals	5 0 0	0 11 0	0 15 2	0 5 0	0 6 1	0 1 0
Peshawar	Wells	10 0 0	0 8 0	2 0 0	0 12 0	0 12 0	0 2 6
Bannu	Do.	10 0 0	0 8 0	Not shewn		2 0 0	0 1 0
D. I. Khan	Wells and streams	2 8 0	0 4 0	1 6 0	0 11 0	0 8 0	0 1 0
Gurgaon	Wells and canals	3 8 0	1 8 0	3 0 0	1 8 0	1 8 0	0 9 0
Karnal	Ditto	2 14 0	1 14 0	No such rates		1 8 0	0 8 0
Jhang	Wells	1 8 0	1 4 0	1 0 0	0 8 0	0 8 0	.....
Rohtak	Wells and canals	2 12 0.	2 0 0	3 0 0	2 12 0	1 6 0	0 6 0
Kohat	Wells and streams	6 8 0	1 12 0	0 12 0	0 8 0	0 6 0	0 3 0
Delhi	Wells	4 0 0	2 4 0	3 0 0	2 0 0	1 12 0	0 10 0
	Canals	3 0 0	2 12 0				
Jhelum	Wells	5 0 0	2 4 0	1 8 0	1 4 0	2 8 0	0 6 0
Multan	Wells and canals	3 2 0	0 8 0	1 4 0	0 12 0	0 4 0	0 4 0
Muzaffargarh	Do.	1 3 3	0 14 0	1 2 0	0 12 0	No dry cultivation.	

NOTE.—The Lahore and Montgomery wet-rates on canal-irrigated lands have been obtained by adding the water-advantage rates per acre in 1878-79 to the dry revenue-rates.

Ratio between revenue-rates and gross produce.

Compared with the rent-rates of the North-Western Provinces, which would be double the revenue-rates of that Province, had revenue-rates been used, these Punjab revenue-rates appear decidedly high on irrigated and low on unirrigated land. The share of gross produce which they are supposed to represent has been mentioned above.* In reality it is no doubt considerably less than the theoretical one-sixth which has formed the basis of assessment in most districts. For the province as a whole, it has been estimated at one-sixth of the profits, and one-sixteenth of the gross produce of the land. Another estimate makes it not more than one-tenth of gross outturn on a series of years, good and bad together.

* See page 5.

Famine Papers, page 600.

The incidence of the land revenue per cultivated acre is shewn in the following table.† It relates to the year 1878-79. The districts marked with an asterisk have not yet been fully assessed under the new settlements :

Administration Report of 1878-79.

Incidence of revenue demand per cultivated acre.

District.	Average rate		District.	Average rate	
	Per cultivated acre.	Per culturable acre.		Per cultivated acre.	Per culturable acre.
	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.
Jullundur ...	1 15 6	1 11 9	Hazara ...	0 12 10	0 8 9
Delhi	1 13 6	1 7 2	Shahpur ...	0 12 8	0 2 8
Hoshyarpur ...	1 11 9	1 8 10	Bannu ...	0 12 3	0 5 8
Gurdaspur ...	1 7 6	1 5 4	Rawal Pindi ...	0 12 1	0 10 0
Sialkot	1 6 11	1 2 8	Kohat* ...	0 11 11	0 6 7
Umballa	1 6 4	1 0 10	Gujrat ...	0 11 9	0 8 6
Kangra	1 5 3	1 4 3	Jhang* ...	0 11 7	0 1 7
Amritsar	1 5 2	1 2 9	Jhelum* ...	0 11 5	0 6 7
Muzaffargarh* ...	1 4 9	0 5 9	Multan* ...	0 10 11	0 3 2
Gurgaon*... ...	1 4 3	1 2 8	Lahore ...	0 10 2	0 6 0
Karnal*	1 3 7	0 11 9	Dehra Ismail Khan	0 9 2	0 1 8
Ludhiana	1 1 8	0 15 8	Firuzpur ...	0 7 8	0 6 5
Gujranwala ...	1 0 6	0 7 7	Hissar ...	0 5 10	0 3 3
Peshawar ...	0 15 11	0 12 0	Dehra Ghazi Khan	0 5 10	0 2 5
Rohtak* ...	0 15 10	0 13 7	Sirsa ...	0 3 3	0 1 8
Montgomery ...	0 14 2	0 1 8	Whole Province ...	0 15 3	0 7 6

The general incidence of the assessments is believed to be light. It has been pointed out that the enhancement of revenue at revision of settlement does not keep pace with the increase of cultivation which has occurred during the settlement term. Allowance has to be made for the better standard of living; the new area of cultivation includes much comparatively poor soil, and its extent is thus no safe criterion of its value; while the absence of competitive rents renders it difficult to determine with confidence the increased value of land. Returns of cultivated area in the Punjab are prepared every five years, the first published being that for the year 1868-69. This shows the cultivated area of the province as 20,171,558 acres. The return for 1873-74 gives it as 22,640,889 acres. The increase is one of 2,469,331 acres, or 12 per cent. in five years. The irrigated area has increased from 5,984,891 to 6,619,335 acres (1,618,854 acres under canals). The increase is one of 10·6 per cent. in five years. At present more than one-fourth of the cultivated area of the province is irrigated.

Famine Papers, Vol. II., pages 599, 600, 625.

Page 634 A.

Increase of cultivation.

The land revenue has been realised with ease in the whole province for years past.

Page 595.

Facility of collection : Balances.

† Note.—The figures come from the Appendices to the Administration Report. They must be accepted with some reservation. In the district notes it is explained that they shew the incidence of the 'gross assessments,' including miscellaneous and assigned revenue. The fact is that these 'gross assessments' include *some* assigned revenue and *some* miscellaneous revenue (as grazing dues); but it is impossible to say how much of each, or to reconcile them with the figures obtained by adding up the various kinds of revenue as shewn in the Revenue Reports.

Revenue demand and balances for the last seven years are shewn below. Nominal balances are excluded.* The revenue demand includes quit-rents *(nazrana)* and service commutations, the collections of khalsa revenue not being separately shewn in the annual reports:

Year.	Revenue demand.	Balance of the year. In train of liquidation.	Per-centage.	Doubtful.	Per-centage.	Irre-coverable.	Per-centage.	Total per-centage.
	Rs.	Rs.		Rs.		Rs.		
1872-73 ...	1,88,47,364	29,189	0·16	24,597	0·13	12,739	0·07	0·36
1873-74 ...	1,90,10,843	47,477	0·25	29,658	0·15	11,032	0·06	0·46
1874-75 ...	1,91,37,849	50,036	0·26	27,797	0·14	21,536	0·11	0·51
1875-76 ...	1,92,06,039	73,403	0·38	71,084	0·37	6,022	0·03	0·78
1876-77 ...	1,92,31,400	44,810	0·23	69,259	0·36	39,924	0·21	0·90
1877-78 ...	1,93,27,081	2,75,450	1·43	64,064	0·33	35,533	0·18	1·94
1878-79 ...	1,94,05,583	3,33,806	1·72	94,534	0·42	22,359	0·11	2·25

The large balance of 1877-78 is due to suspensions of revenue on account of agricultural distress in several districts, chiefly Gurgaon, Karnal, Hoshyarpur, Bannu, and Hazara. Effects of this distress continued to be felt in the succeeding year. The year 1875-76 was one of abnormal rainfall, and the balances are mainly due to damage caused by floods and diluvion, the effects of which continued to be felt in the following year also. For each of the six years the balances include adjustments of revenue demand on account of losses of this kind, losses by drought, by failure of canals in the Indus districts, and so on. There is no means of separating these items from arrears proper. The balances of previous years outstanding at the end of each of the last four years are shewn below:

At the end of—	Outstanding balances.
	Rs.
1875-76	35,373
1876-77	56,398
1877-78	43,653
1878-79	1,65,680

* They amount to the following sums. If deducted from the year's demand, as in strictness they should be, the result would be a somewhat higher percentage of real balances on real demand:

Year.	Nominal balance.
	Rs.
1872-73	41,850
1873-74	1,02,100
1874-75	60,629
1875-76	79,260
1876-77	1,06,350
1877-78	1,19,994
1878-79	1,62,697

The total collections, on account both of current demand and of arrears, have been year by year as follows :

Year.	Total collections.
	Rs.
1872-73	1,88,65,063
1873-74	1,88,60,280
1874-75	1,90,18,117
1875-76	1,90,14,541
1876-77	1,90,36,048
1877-78	1,88,75,169
1878-79	1,89,69,173

Coercive Processes.

Coercive processes are shewn below. It should be noted that defaulters can be detained in confinement at the tahsili for ten days, and then consigned to the civil jail for a year, unless payment is sooner made. When a share is transferred for arrears of revenue, and the arrears remain unpaid for twelve years, the transferee may apply for a notification making the transfer absolute unless payment is made within one year. Any person dispossessed by attachment, direct management, transfer, or annulment of settlement, is entitled to an allowance like a person excluded from settlement, *i. e.*, 5 to 10 per cent. on the net amount realized by the Government from the land in question :

Year.	Number of processes.		
	Writs of demand.	Persons confined.	Districts.
1872-73 ...	31,580	6	48
1873-74 ...	36,977	48	19
1874-75 ...	39,693	56	53
1875-76 ...	44,915	129	214
1876-77 ...	48,498	142	172
1877-78 ...	49,730	71	101

Writs of demand are comparatively more common than in the North-Western Provinces, but other coercive processes are less common. The great majority of persons confined were merely detained in the tahsil; cases of imprisonment in the civil jail are very rare. Similarly, but few of the orders of distraint ended in actual sale. But separate statistics are not given.

The major coercive processes are hardly ever put in force. In 1874-75 direct management and sequestration of profits was resorted to in some villages of Dera Ismail Khan; and in the following year the settlement of four villages of Montgomery was annulled. The remaining years are blank.

Term of settlement.

The term of settlement is 20 years in the following districts:

Rawal Pindi.	Sialkot.
Shahpur.	Peshawar.
Hissar.	Lahore.
Gujranwala.	Amritsar.
Gujrat.	Dera Ghazi Khan.
Montgomery.	Gurdaspur.

Elsewhere it is 30 years, except in the districts where the new settlements have yet to be confirmed.

Facility of revision.

Much attention has been paid of late years to the training of patwaris (village accountants) and the ensuring of accuracy in the village papers. In the Revenue Report of 1877-78 (page 13) it is said that "the system of patwaris' examina- "tions continues to work well. In most "districts the patwaris, where not under "training in the settlement department, "have gone through a course of instruc- "tion in patwaris' schools, and the majority "have either been passed after examin- "ation or exempted on account of known "efficiency. Attention has also been given "to the training of the probable succes- "sors of qanungos" (patwaris' supervisors). The village records are inspected and tested by junior district officers on tour; closer and more constant supervision has been insisted on of late from tahsildars and qanungos; and it is said that the patwari's field inspection "has begun to be "an honest reality instead of a worse than "useless pretence, and the annual papers to "be valuable records of the history of the "year." But fresh survey will be made, and a new record of rights framed, in all the districts which are now coming under revision of settlement. Apparently, it will only be after the present revision that any practical interest will attach to the question whether village papers in the Punjab cannot be made and kept accurate enough to serve as the basis of future settlements.

Revenue Reports of 1876-77 and 1875-76.

Permanent department of settlement.

In this connection it is important to note that the local Government seem to contemplate the maintenance of a permanent staff of skilled settlement officers. "It has been found by expe- "rience very embarrassing to subject a "large number of districts to settlement "operations simultaneously; the revenue "establishments in all grades become ab- "normally enlarged; the difficulty of "supervising extensive assessment opera- "tions is very great; and if important "issues are raised, they are presented in a "form affecting such large areas, that their "decision involves great responsibility and

Famine Papers, Vol. II., page 595.

" very widespread results. Moreover, after " a few years of these extensive operations, " no more districts remain to be re-settled; " and the Government is consequently ob- " liged to dismiss valuable establishments, " and to absorb the settlement officers in the " regular line of administration. Subse- " quently, a few years later, when the leases " of other districts have fallen in, these " establishments have to be formed anew " with great difficulty, and much of the " experience before gained has been lost in " the hiatus which has occurred in the " operations. Under the system lately " adopted, by only undertaking the re-set- " tlement of a small number of districts at " a time, these evils are avoided. The re- " settlement of a district ordinarily takes " from four to five years; it follows that " six districts can be settled in 30 years; " and therefore that with five settlement " establishments working in the Punjab " (there are 32 districts, including the very " small district of Simla), all the leases " would have been revised in the same " period; and the leases of those first settled " would have by that time expired: so that " the five settlement establishments will " have continuous employment. The num- " ber of settlement establishments is at " present in excess of five, but will shortly " be reduced to that number."

PUNJAB.

THANESAR.

This district has been partitioned between Umbal and Karnál.

Report, pages 77—79.

THE western portion of the Thanesa district was assessed between Decembe 1846 and October 1847. The settlemen was heavy and unequal, was never confirm ed, and had to be done over again betwee 1853 and 1857. Similarly, the first settl ment of the eastern portion, made i 1848-52, broke down, and revision laste till February 1856.

Pages 94, 80.

The revised assessments of both portion were again revised in March and Apı 1860, and finally a third revision in 186 gave the following results :

Old assessment (1846-52).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
7,24,496	5,84,048	−1,39,448	18

Page 90.

These figures, however, relate to khal and jagir together. The new khalsa a sessments were Rs. 3,77,197 only.

The cost is not shewn.

Page 85.

The mode of assessment in the fir instance is recorded for the eastern po tion only of the district, and was follows :—Averages of gross produce every class of soil (dry clay, loam, a sand, and wet land without distinction soil) were got by experiment, and t Government share, taken at one-thir gave the first rough jama. Then circ revenue-rates on soils were worked o from the same data, and reduced 30 or per cent. "for profit to the zamindars thus fixing them (apparently) at $\frac{7}{60}$ths $\frac{13}{60}$ths of the gross produce. Finall assessment was made with regard to v lage circumstances, and to the opinions the peshkar, the qanungo, and respec able zamindars.

Pages 82, 83.

The final revision of assessment in 18 was mainly a matter of inspection a collation of past revenue collections.

Page 81.

The incidence of the revenue deman as fixed in 1862, upon the cultivated acr was as follows :

Pargana.	Rs.	As.	P.
I. ...	0	13	9
II. ...	1	1	11
III. ...	1	6	1
IV. ...	1	13	0
Whole district	1	4	0

Remarking on the reductions, the local Government said—"As in other "parts of the Punjab, this cannot be "accounted a sacrifice of revenue. It is "simply the necessary consequence of "the sudden and enormous alteration "which occurred soon after the annexa- "tion in the relative values of specie and "agricultural produce. The first jamas "were founded on an erroneous assumption "of the average prices, and the reduction "is really a refund of revenue which "should never have been demanded." The Financial Commissioner adds that the area of irrigated land had been over-estimated, and both the wet and dry revenue-rates had been pitched too high.

Review, para. 10.

Preface.

The settlement expired in 1878-79.

Review, para. 17.

UMBALLA.

Area ... 2,621 *sq. miles.*
Population ... 1,035,488.

Commissioner's paras. 2—5.

In 1847 the settlement of the Cis-Sutlej States was entrusted to a single officer. Firuzpur and Ludhiana were made a separate charge in January 1850, leaving Thanesar and Umballa. The latter district was half finished by the middle of 1852, when a separate officer was appointed, who completed the settlement of the northern parganas by the beginning of 1855. Altogether, the district was eight years under settlement. The results were a khalsa jama of Rs. 4,45,220, and a jagir jama of Rs. 5,60,497, at a cost of Rs. 4,50,789.

Northern parganas, para. 68. Commissioner's para. 60.

Review, para. 30.

Southern parganas, Appendix VIII.

The revenue demand of the summary settlement (made by various officers in various portions of the district) is not shewn, but the decrease at the regular settlement was 21 per cent. in the southern, and 13 per cent. in the northern parganas.

Northern parganas, para. 65.

Para. 211.

As for the mode of assessment, the assessing officer of the southern parganas writes as follows:—"My first step was to "divide the country off into circles of "similar villages, to be assessed at the same "rates. When any villages in the circle have "been assessed before, I have seen what "jama the rate of that assessment would "give for the whole circle. I have used "produce tables. I have enquired of the "zamindars and of the jagirdars as to the "value of produce per bigha of each differ-"ent kind of land, and of every village in "the neighbourhood. I have compared the "assessments then got and the assessments "which the officers who made the former "settlements arrived at. I have taken the "tahsildar's opinion as to the proper assess-"ment to be paid, and have generally "found it good for nothing. I have ap-"plied to the lands of the circle the rates "of the neighbouring districts; and, when "I got on with my work, the rates I used "in other similar circles. I have always "borne in mind that the settlement, to be "paid with ease, must be a light one, and "I have never forgotten the constant in-"junction that the assessment should be "moderate." From these data, revenue-rates were framed with regard to soil classes and irrigation.

Review, para. 7.

In the northern parganas the assessment circles comprised land of one general character, such as alluvial, hilly, &c.; and village classes were formed within the circle. The data of assessment were—(1) the jagirdars' records for periods ranging from two to twelve years, the grain collections being turned into cash at the average prices current of five or ten years previous; (2) the summary settlement, both for villages assessed to it, and also by application of its general rate to other villages; and (3) the punchayat's estimate for each village, formed by the "most respectable and intelligent men of "the country under assessment." Revenue-rates were framed for irrigated and un-irrigated lands. Paras. 56—58.

The resultant revenue incidence was as follows:

	Old incidence.	New incidence.
	Rs. As. P.	Rs. As. P.
Southern parganas ...	1 13 8	1 7 6*
Northern ditto ...	.....	1 10 5*
District average ...	.....	1 7 10

Appendix VIII.

* These are the averages of the jamas as originally proposed.

In a recent review of the Umballa settlement, it is said that the problem of assessment practically resolved itself into the question of the amount of reduction necessary to secure the prosperity of the district. "There has been the usual ex-"tension of cultivation since the settlement "was made; which, added to the rise in "prices, has no doubt reduced the share of "the produce absorbed by the Government "demand to a point far below that contem-"plated by the most moderate of the rulers "who preceded us." Famine Papers, Vol. II., page 645.

The majority of the agricultural population are Jats, and most of the land seems to be held by cultivating bhayachara communities. In the northern parganas six-sevenths of the settlement cultivated area was tilled by proprietors. Appendix XIV. Report, para. 29. Review, para. 3. Northern parganas, para. 366. Appendix VI.

The irrigation percentage† was 6·58 in the northern parganas, and about 5 in the southern. The culturable waste percentage was less than eleven in the northern, and over 13 per cent. in the southern parganas. Appendix XIV. Appendix IX.

† NOTE.—For the sake of brevity, the term 'irrigation percentage' is used to denote the percentage of the cultivated area which is irrigated; and the phrase 'culturable waste percentage', to denote the percentage of the total arable area which is uncultivated.

The revenue-rates adopted were as follows :

Appendix XXII.

Southern parganas.

	LANDS WATERED BY											
	Wells.				Natural irrigation.				Dry.			
	Maximum.			Minimum.		Maximum.		Minimum.		Maximum.		Minimum.
	Rs. As. P.			Rs. As. P.		Rs. As. P.		Rs. As. P.		Rs. As. P.		Rs. As. P.
Homestead ...	4	0	0	2	2	0	4	0	0	1	14	0	2	12	0	1	0	0
Loam ...	3	0	0	1	2	0	4	7	7	1	3	0	2	6	0	0	12	0
Clay ...	3	4	0	1	2	0	2	14	0	0	15	0	3	2	2	0	8	0
Sand ...	2	4	0	0	12	0	3	13	6	0	12	0	2	2	0	0	7	0

Appendix XV.

Northern parganas.

	Maximum.		Minimum.	
	Rs.	As.	Rs.	As.
Wet ...	4	0	1	2
Dry ...	2	2	0	8

Review, para. 29.

The settlement was confirmed for 30 years from dates of the engagements.

Revenue Reports.

After settlement the Thanesar district was divided between Umballa and Karnâl. The khalsa revenue demand of Umballa thus appears as Rs. 6,56,487 in 1864-65. In 1867-68 the district received a pargana from Karnâl, and the revenue demand continued to increase by lapses and resumptions and by alluvion, till it reached Rs. 7,74,281 in 1877-78.

Administration Report of 1878-79.

The revenue incidence on cultivation in 1878-79 was Rs. 1-6-4,* and the irrigation and culturable waste percentages 18 (2·3 per cent. canals) and 17 respectively.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

The whole district, as at present constituted, comes under revision of settlement this year (1880).

SIRSA.

Area	...	3,121 *sq. miles.*
Population	...	210,795.

THIS district was settled piecemeal. Page 85.

Pargana Darba.—The settlement was confirmed for 20 years from 1853-54. It reduced the revenue demand from Rs. 13,183 to Rs. 10,721. Assessment was an all-round rate of one anna per local cultivated bigha, rents being two annas the bigha, but only 80 per cent. of actual cultivation was assessed. On this the revenue incidence was two annas the acre. The cultivated area amounted to 77 per cent. on the whole area of the pargana. Pages 75, 78.

In 18 out of the 44 villages of the pargana, rents existed and the tenure was zamindari; in the rest "the bâchh was "bhayachara," tenants paying equally with proprietors, but having no claim to sayer profits. Tenants-at-will numbered only 36 altogether. Pages 72, 73, 74.

Pargana Rori.—Settlement was for 20 years, expiring in 1873-74. The demand was raised from Rs. 2,877 to Rs. 3,514, rising in five years to Rs. 4,008. Revenue-rates were six annas a bigha on *sailabi* lands and two and a quarter annas on marsh lands, *i. e.*, 9 annas 7 pie and 3 annas 9 pie per acre respectively. The general incidence was 4 annas 8 pie. Only 44·7 per cent. of the total area was cultivated. The culturable waste percentage was 53·2. Tenures were— Pages 92, 93, 88, 89.

	Zamindari.	Imperfect pattidari.	Bhayachara.
No. of villages	7	2	1

Rents did not exist in seven villages, *i. e.*, "the proprietors realized no profits from "the cultivation."

Pargana Sirsa.—Settlement was for 20 years, expiring in 1873-74. The revenue demand was fixed at Rs. 26,554, against Rs. 28,392, average of previous five years' collections, and Rs. 19,584, similar average of ten years. More than $\frac{7}{8}$ths of the cultivation was kharif. The general revenue incidence was 4 annas 9 pie. Tenures were— Page 98.

	Zamindari.	Pattidari.		Bhayachara.
		Perfect.	Imperfect.	
No. of villages	47	3	19	2

Only 54$\frac{1}{2}$ per cent. of the total area was cultivated.

The revenue-rates adopted were—

	Maximum.			Minimum.		
	Rs.	As.	P.	Rs.	As.	P.
Kharif lands ...	0	3	2	0	2	6
Dry rabi ...	0	9	7	...		
Sailabi ...	0	9	7	...		
Rice lands ...	2	12	10	1	9	7

Pages 1, 4.

Pargana Rania.—Settled for 20 years, ending 1876, at Rs. 55,320, rising to Rs. 64,591 in the 20th year. The initial revenue incidence on cultivation was 5 annas 2 pie. The cultivated area was 32·8 per cent. of the total area; the culturable waste was 64 per cent. of the whole arable area. The revenue-rates used were—

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Dry-land I.	...	0 3 0	0 2 5
Ditto II.	...	0 3 6	0 2 9
Sailabi ... Grain	...	0 4 10	0 3 6
Sailabi ... Rice	...	3 3 2	1 9 7

Pages 69, 34, 42, 43, 58, 61.

The rest of the district was settled in 1860-63 for 13 years, expiring in 1875-76. The assessments were raised from Rs. 82,960 to Rs. 89,029.

Page 35.

Pages 40, 49, 53, 41, 50.

This tract comprises two regions differing in soil. The first is that of *rausli* soil, three parts sand to one clay, with patches of pure sand. The only irrigation is from wells 150 to 200 feet deep. The assessment was "fixed according to the "Saharanpur rules; that is, the net produce "to the proprietors is ascertained, from "which the village servant, road, and school "expenses are deducted, and the balance "divided into halves, one-half forming the "Government demand." The revenue incidence throughout this part was 4 annas; the cultivation and culturable waste percentages were 28 and 70 respectively. Tenures were—

Page 42.

Zamindari.	Pattidari.	Bhayachara.
278	42	3

Pages 42, 49, 53.

Pages 40, 50, 44.

Kharif cultivation predominated. In some of the villages there was no rent. The revenue-rates used were 1 anna 7 pie, 2 annas 2 pie, 3, 3½, or 4 annas, according to the circle: and surplus culturable waste was assessed at 3 and 4½ pies the acre.

Pages 43, 49, 53.

Pages 54, 55.

The second portion was divided into lowlands and uplands. The cultivation and culturable waste percentages here were 25·7 and 71, but the former rose as high as 44 in the lowlands. The general revenue incidence was 8 annas 10 pie. Tenures in the lowlands were—

Zamindari.	Pattidari.
67	19

The tenures of the 35 upland villages are not shewn.

Pages 58, 61.

The lowlands were assessed with reference to the revenue-rates used at the former settlement, which had been rather heavy.

The new revenue-rates adopted were—

		Per acre. Rs.	As.	P.
Lowlands	Flooded lands	0	12	8
	Watered by wells	1	0	0
	Ditto rain	0	2	0
Uplands		0	2	6

The upland cultivation was all kharif.

For the whole district the result is shewn as a revenue of Rs. 1,70,371, or Rs. 1,8341 (12 per cent.) in excess of the old demand of Rs. 1,52,030. This excess rose to Rs. 25,313 in the last year of settlement, *i. e*, to 16½ per cent. The pargana figures, however, give a total assessment of Rs. 1,85,138, rising to Rs. 1,94,903 in the last year. The settlement of the whole district, as extended in 1864, expired in 1876, and revision of settlement has already begun.

Pages 62, 66.

Page 69.

The khalsa revenue demand of 1864-65 was Rs. 1,71,623. That of the 31st March 1878 was Rs. 1,79,181. The difference is due to gain by alluvion and to progressive jamas. At present the revenue incidence on cultivation is shewn as 3¼ annas,* and the irrigation percentage as 3 only, an infinitesimal area being under canals. Less than half the area of the district is cultivated.

Revenue Reports.
Administration Report of 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

JULLUNDUR.

Area ... 1,326 *sq. miles.*
Population ... 794,764.

Paras. 3—6, 340.

SETTLEMENT operations began in 1846, and lasted till October 1851, or about 5¾ years, but Jullundur had a separate Settlement Officer only from January 1851, having previously been managed conjointly with Hoshyarpur. An English assistant and a native Deputy Collector

Paras. 137, 336.

were employed for some portion of the time. The results, as regards khalsa revenue, were as follows:

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
10,90,666	10,71,666	—19,000	1·66	2,27,035

Jagirs amount to Rs. 2,28,052 more.

Only one summary settlement preceded the regular settlement. Rents being all in kind, and village records imperfect or untrustworthy, no rent-rates could be framed. Assessment circles were formed with regard chiefly to differences of soil. Then the villages of each circle, after inspection,

Paras. 60—63, 100, 104—5.

were carefully divided into classes of the same, or nearly the same, general quality, regard being had to "all and every "circumstance (including caste) which "might affect the capacity of the estate "to pay revenue." Produce estimates were

Paras. 118, 119.

framed by ascertaining from chaudhris, zamindars, qanungos and others the ordinary yield per acre for each kind of crop, together with its market price, for each class of each circle. One-fourth of the cash result was taken as the revenue-rate of that crop for that class. Applying these rates to the village crop-areas, a produce jama for the class was obtained, whence followed the circle jama and the pargana jama. The class, circle, and pargana jamas were also known for the

Paras. 66—69.

summary settlement, and for the light and heavy settlements respectively made in two selected periods of Sikh management.

Paras. 91—93.

Soils were then divided into wet and dry, discarding all other distinctions.

Paras. 108, 109.

The four jamas above-mentioned were divided over the wet and dry lands of each class, in the recognised ratio of their fertility. The resulting wet and dry revenue-rates were compared with one another, and with the revenue-rates in those villages of each class which were

Para. 110.

generally pointed to as fairly assessed.

Moghal jamas were also got for parts of some parganas. "When, besides these "data, there was brought into play the "knowledge of the general condition of "the class and circle, which all the above "processes must necessarily have imparted, "and the whole passed into review together, "there would be little difficulty in hitting "upon some new rates." The new rates were then tried on the wet and dry areas of the class and the village. If they "gave about the right deduction or en- "hancement on the whole," lowering the jama of notoriously over-assessed, and raising that of notoriously under-assessed villages, while maintaining fair assessments unchanged, "then the rates would be set "down as applicable to the class." Para. 111.

The result was a general incidence of Rs. 2-1-8 on the cultivated acre, and of 25·44 per cent. on the estimated gross produce of the district. Para. 35. Para. 143.

No figures relating to tenures are given. The great majority of estates were held bhayachara or pattidari by cultivating communities, with rights and interests among themselves completely divided, actual possession being the main index of shares and rights. The distribution of the jama was made either by an all-round rate, or by soil-rates, or wet and dry-rates, or by ploughs, or by arbitrary fractional parts. In zamindari villages the shares were expressed in fractions of a bigha. Taluqdars, where recognised, got malikana in grain or cash, or a percentage on the revenue, or an allotment of land. More than 80 per cent. of the cultivated area was tilled by proprietors. Paras. 281—285, 133. Para. 244. Calculated from paras. 43, 44.

The revenue-rates used were as follows : Pages 60—75.

	Wet.				Dry.			
	Maximum.		Minimum.		Maximum.		Minimum.	
	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.
Sîrwal, or moist submontane tract ...	4	12	4	1	3	0	1	12
Khadir ...	4	8	2	6	3	5	1	0
Other lands ...	5	12	2	8	2	4	0	12

Manured land in the vicinity of Jullundur was assessed as high as Rs. 7 the acre.

Revision of settlement is to begin this year (1880). The revenue of the district has been greatly increased by lapses and resumptions of revenue-free lands, and in a less degree by alluvion. In 1864-65 it is shown as Rs. 12,96,808 (evidently including Rs. 1,31,000 tribute); in 1866-67 as Rs. 11,73,809, or a lakh in Administration Report of 1878-79. Revenue Reports.

excess of the khalsa revenue of settlement; and by 1877-78 it had risen to Rs. 12,09,982. Khalsa and jagir together, it has not changed much, for it appears as Rs. 13,08,118 in 1878-79. The present incidence on cultivation is Rs. 1-15-6,* and the irrigation and culturable waste percentages are respectively 34 and 12.

Administration Report of 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

HOSHYARPUR (EXCEPT ONE PARGANA).

Area of entire district ... 2,086 *sq. miles.*

Population do. do. ... 938,890.

SETTLEMENT operations began in 1846, and were finished in 1852, having lasted six years. They were carried on together with the Jullundur settlement till the end of 1850, and one pargana remained under the Jullundur Settlement Officer all along. The remainder of the district, separated in January 1851, was assessed by two officers, with the following results (khalsa revenue only): Para. 2. Paras. 86, 201.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,18,120	8,77,389	—40,731	4·4	1,69,707

But resumed muafi and groves raised the new assessments to Rs. 9,01,198. Jagir assessments were Rs. 1,26,948.

To the costs of settlement ought to be added the expenditure between March 1869 and May 1873 on the preparation of a record of rights for the Unah tahsil, which had been settled, like Kangra, without field maps. This amounted to Rs. 1,18,805, after deduction of charges recovered from zamindars and suitors. Thus the total cost was Rs. 2,88,512.

The assessment system in the plains began by assuming (in default of rent-rates, which did not exist, cultivators paying at revenue-rates only, except in a few villages, where the summary settlement had created rent) the jamas of the last Sikh governor as the basis of the new settlement. Circles were formed, and classes within the circles; "those jamas "which seemed fair specimens of the class "were excepted and worked over the origi-"nal khalsa area of the villages to which "they belonged; and the rate thus yielded "was applied to the total khalsa area of the "class." This jama for the class was then compared with the summary one, and either was taken, or a mean struck. "It "was then necessary to procure revenue-"rates. In the first instance, the compara-"tive value of irrigated and unirrigated "land in each circle was calculated," according to the "naturally correct ideas" of the people, and then the rates of the two jamas on wet and dry land were "worked "out in the proportions decided on;" the results were compared, and "after a few Paras. 76—78.

"experiments," a rate that would bring out the jamas of the majority of villages at about their proper figure "would be hit "on." This rate was then tried on the entire class, and "if the result seemed "tolerably satisfactory, the rate was left "for comparison with those of the other "classes of the circle, or of other parts of "the pargana," or other parganas of the district, or of the Jullundur district. After all this comparison, when the new rates were deemed trustworthy, "the "assessment of each village in detail was "commenced. The revenue-rates were "not servilely followed."

Paras. 81—84.

The hill tract was assessed by the same officer who settled Kangra, and on the same plan. Discarding classified rates and produce estimates, as unpractical and misleading, he assumed, from "the in-"vestigations carried on at the settlement "of the Agra Provinces," that the revenue-rate for dry land should range between one and two rupees, and for wet land between three and five. One general rate, between these limits, was then fixed for each taluqa, with regard to the incidence and pressure of the existing demand. This modified rate (one rate for wet and another for dry land, apparently) was applied to the area of every village (divided into wet and dry). The villages already assessed at the chosen average were left alone, and the remainder were raised or lowered to agree with them. The assessments were then fixed for each village, after consulting the tahsildar in committee with two or three respectable zamindars of the taluqa.

Review, para. 7.

The revenue incidence was as follows :

Parganas.			Rs.	As.	P.
I.	...	...	1	15	3
II.	...	...	1	15	0
III.	...	...	2	5	2
Hill tract	...	...	1	15	0

Appendix V.

Parganas I. and II. comprised three-fourths of the area in the plains. The hill tract occupied only $4\frac{1}{2}$ per cent. of the total area.

Para. 182.

The number of mahals is not shewn, but only 15 per cent. were zamindari, the rest being bhayachara, held by cultivating proprietors.

Paras. 184, 185.

There were a few taluqdars, receiving from two to ten per cent. malikana, or, in the hills, two seers per maund on all the crops raised.

Appendix II., V.

Sixty-four per cent. of the cultivated area was tilled by proprietors. The culturable waste percentage was 7·77. The

irrigation percentage was only 2·2 on the whole, but rising in one circle as high as 13·84. Para. 119.

The summary assessments were reduced by as much as 22 per cent. in one circle. In September 1856 the settlement was confirmed for 30 years. It had then been four years on trial, and will consequently expire in 1882. Para. 130. Review, para. 9.

The revenue-rates educed for the plains portion are shewn below : Appendix VI., paras. 74, 101, 102, 103.

	Wet.						Dry.					
	Maximum.			Minimum.			Maximum.			Minimum.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Submontane (*kandi*).	4	8	0	2	8	0	2	12	0	0	14	0
Clay in drainage bottom (*dhák*).	5	4	0	4	8	0	2	8	0	1	9	6
Loam and sand in drainage bottom (*sirwal*).	5	0	0	4	0	0	3	4	0	1	8	0
Uplands ...	5	0	0	4	0	0	3	2	0	1	7	0
Khadir ...	4	12	0	3	0	0	3	2	0	1	8	0

Including the remaining pargana, the khalsa revenue of the district was Rs. 12,40,187 in 1864-65, and lapses and resumptions of revenue-free tenures raised it to Rs. 12,86,625 in 1877-78. The revenue incidence on cultivation at present is Rs. 1-11-9.* The culturable waste percentage now (1878-79) appears as 10½; the irrigation percentage has risen to 2·6.† Revenue Reports. Administration Report of 1878-79.

* This is the incidence of the gross assessments, including alienated and miscellaneous revenue.

† It is shewn as 17 at page 634, vol. II., of the Famine Papers, but this must relate solely to the plains portion of the district.

KANGRA.

Area	...	8,988 *sq. miles.*
Population	...	743,832.

Mr. Barnes' Report, paras. 295, 373, 436, 437, 233.

SETTLEMENT operations were begun by demarcation of boundaries in 1848, and were finished by the end of 1852, after lasting between four and five years. Assessments occupied less than a year (November 1850 to the autumn of 1851). The whole work was done by the district staff. The result was (khalsa revenue only)—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
7,27,151	6,83,793	—43,358	6·1	21,785

This is exclusive of Rs. 1,12,072 jagir, besides smaller revenue-free grants.

Paras. 332—349.

In the Kangra valley the Sikh revenue used to be taken in kind, at half the gross outturn, which by long experience had become a fixed measure of produce for every field for both harvests. On other irrigated lands fixed cash assessments were paid. On unirrigated land the Sikh cash assessments were fixed on the basis of the money value of half the produce, and varied only at intervals, as the extension or contraction of cultivation required. The first British settlement for three years, made between March and May 1846, was based on the Sikh demand less 10 per cent., but *plus* 9 per cent. cesses. The Kangra valley assessments were converted into cash at the average of five years' prices. This settlement continued till 1851. It was considered as too heavy upon unirrigated lands.

Paras. 353—356, 358.

Paras. 362, 370, 371.

The assessing officer in 1850 set out with the calculation that the revenue demand from unirrigated lands should be reduced 12 per cent. In every taluqa two rates only were adopted for wet and dry lands, without distinction of soil. If the taluqa assessment was heavy, the rates were manipulated so as to bring out what was considered a fair jama. "These modified rates were applied to the area of every village. Those above were brought down to the level of the rates. "Those already assessed at the average were left undisturbed, and those below were cautiously raised towards the general standard." The zamindars were also largely consulted. The result was to reduce the revenue incidence on the three parganas

worst irrigated from Rs. 1-9-10 per cultivated acre to Rs. 1-7-2; and in one of these three, which is not irrigated at all, from Rs. 1-7-5 to Rs. 1-4-6; while in the Kangra valley the rate was raised from Rs. 2-12-9 to Rs. 2-13-1; and for the whole of Kangra Proper, irrigated and unirrigated parganas together, the average rate came out Rs. 1-12-6.

Paras. 137, 373.

The record of rights was revised in the four years from August 1865 to August 1869, at a cost of Rs. 1,47,194. Cultivation in Kangra proved to have increased in the 18 years by 20 per cent., and the new incidence of revenue on the cultivated acre in all Kangra was Rs. 1-5-7, and in the Kangra valley alone Rs. 2-3-5. In Kulu and Seoraj the incidence was Rs. 2-1-2; in Lahaul and Spiti, Re. 0-14-10. Most of the increase in the cultivated area was due to the improvement of inferior lands only casually cultivated in 1850, and therefore not recorded then. Transfers to Gurdaspur had reduced the area of the district, and the khalsa jama of 1872 stood at Rs. 6,08,750. The total cost of the Kangra settlement, including the record of rights, thus appears to be Rs. 1,68,979. But it is elsewhere shewn as Rs. 1,87,007, to which must be added Rs. 37,671,* making a total of Rs. 2,24,678.

Settlement Secretary's para. 65. Mr. Lyall's Report, paras. 11, 59; Appendices I., II.

Revenue Report of 1868-69, page 94.

* One-fourth of the Settlement Commissioner's expenses for four districts.

Under native rule the Kangra landholder was a Crown tenant holding an hereditary and mortgageable but not saleable property, with no security against eviction, and responsible only for the revenue demand upon his actual holding. The regular settlement, by imposing joint responsibility, bound together the landholders of each mouzah into a kind of village community, and made the landholders proprietors of their respective fields. They are also co-proprietors, in proportion to their revenue payments, of the waste lands, exclusive of forest-growing trees, which belong to the State (subject, however, to contributions for fuel, farm implements, and building purposes). The tenures in Kulu and Seoraj resemble those in Kangra Proper, and the percentage of proprietary cultivation is 77, against 81 in Kangra. The Lahaul and Spiti arable lands are divided among the revenue-payers, in separate estates of the nature of household allotments.

Mr. Lyall's paras. 20, 27, 30.

Mr. Lyall's para. 90.

Mr. Lyall's para. 148, pages 86—92, 146.
Paras. 131—135.

Twenty per cent. of the cultivated area of Kangra Proper was irrigated in 1872. In the Kangra valley the irrigation percentage was 54; in the other three

Do. Appendix I.

parganas, 15, 9, and 2 per cent. respectively. The present culturable waste percentage is 12½ only; but more than half the district is unculturable. The revenue incidence per cultivated acre is Rs. 1-5-3.*

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

Revenue Report.

Lapses and resumptions of revenue-free tenures raised the khalsa revenue demand to Rs. 6,13,230 on 31st March 1878.

The settlement is for 30 years, and expires in 1882.

LUDHIANA.

Area ... 1,368 *sq. miles.*
Population ... 583,245.

SETTLEMENT work began as early as 1847, demarcation was completed by 1848, the professional survey by 1849; in February 1850 a Settlement Officer was appointed for Ludhiana and Firuzpur; the latter district was placed under separate charge in April 1851, and the Ludhiana settlement was concluded, apparently, in 1854. There was no European assistant, but two native assistants were employed for some part of the time. The results were (khalsa revenue only)—

Paras. 36, 37, 2, 3, 92, and Commissioner's para. 37.

Para. 35 A.

Appendices A and B. These appendices are of later date than the Commissioner's review, which shews the assessments as they stood before reduction in one tahsil, *vide infra*.

Old assessment.*	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
7,59,078	7,36,833	—22,245	3	2,91,353

* Receipts of 1852-53.

There were also Rs. 1,88,767 jagir. The old khalsa and jagir demand was Rs. 10,45,599, and was reduced 11 per cent. altogether.

Only one summary settlement preceded the regular settlement.

Paras. 40—43.

The first step in assessment was to frame circles, not necessarily consisting of contiguous villages. This was done by the help of the village panchayats. Then crop and soil areas were worked out for each circle; the average rent-rate for cash-paying crops on each soil was recorded; and rents in kind were estimated in cash according to averages of outturn and price given by the village headmen, and tested by "local experience," and also by experiment. The rentals resulting from the application of these rates to the crop and soil areas were reduced by 25 to 45 per cent. to suit the circumstances of the pargana. The assessing officer writes: "If the prevailing demand "was generally appropriate, and a deduc-"tion of one-third from the pargana rental "I had formed tallied generally with the "prevailing demand, the revenue-rates "were formed at a deduction of one-third. "Whenever I had cause to give a greater "or less deduction than one-third, ample "cause would be apparent from an inspec-"tion of the papers. As a general rule, I "found a deduction of one-third from the "rental formed as above to give a proper "and practical pargana rate;" and in fact

Para. 44.

the assessments according to these revenue-rates would have been as nearly as possible two-thirds of the estimated net rental. As actually assessed, however, the revenue demand fell at only 58·6 per cent. upon rental.

Appendix A.

The incidence upon cultivation (in 1858) was—

Tahsil.			Rs.	As.	P.
I.	...	...	1	4	0
II.	...	...	1	2	6
III.	...	...	1	8	3
IV.	...	...	1	14	11
Whole district	...	...	1	7	0

Para. 44. Review, para. 23.

The incidence in tahsil II. was Rs. 1-3-7 till reduction by the Commissioner. It is the poorest part of the district.

Para. 43.

Cultivation at settlement was "well "nigh entirely in the hands of proprietors, "who make good the Government demand "by a rate upon their ancestral shares."

Para. 17.

The figures are—

Tenures.			Number of mahals.
Zamindari	...	...	34
Pattidari	...	...	19
Bhayachara	...	...	840

Rents were nearly all in kind. At that time (1852) there was little distinction between proprietary and non-proprietary cultivators, except that the latter could not sell or mortgage their lands.

Para. 6.

The culturable waste percentage was 16·6. There are no irrigation statistics.

Rent and revenue-rates are not shewn.

Review, para. 23.

The settlement expires this year (1880).

Administration Report.

Revenue Report.

Revision began in 1878-79. The khalsa revenue has largely increased by lapses and resumptions of revenue-free lands, and also in a less degree by alluvion. It was Rs. 7,64,747 in 1864-65, and Rs. 7,85,159 on the 31st March 1878. The present incidence per cultivated acre is Rs. 1-1-8,* and the irrigation and culturable waste percentages are 58½ and 7 respectively. Cultivation has increased nearly 8 per cent.

Administration Report.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

FIRUZPUR.

Area ... 2,739 *sq. miles.*
Population ... 549,253.

SETTLEMENT operations lasted from November 1851 to March 1855, or three years and four months. They were conducted by the district officer, aided by a special assistant, and the results were— Page 68.

Paras. 174, 246.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,77,409	4,10,369	32,960	8·7	76,780

This is exclusive of Rs. 36,016 from villages not before assessed, and of Rs. 1,73,291 jagir and muafi.

Circle revenue-rates on soils, wet and dry, were got by "questioning the most intelli- "gent zamindars." The rates did not pretend to any great accuracy, and were used only where the assessing officer thought they "yielded a better jama than that "deduced from a uniform rate on the culti- "vated land without any distinction of soil." The zamindars themselves made no distinction between soils, or between wet and dry, because grain-rents prevailed in zamindari villages, and custom in bhayachara villages rendered such distinctions unnecessary. But it is said that the zamindars knew the different descriptions of soils, and had a fair idea of their relative value. The extent of irrigation was determined by means of a statement of the average irrigation of all the wells in the circle, checked by the opinion of a "coun- "cil of the most intelligent zamindars." Guides to assessment were existing jamas, estimates made by the tahsildars and the panchayats, crop estimates founded on enquiry and experiments, and actual grain-rents as recorded in the patwaris' papers.

Paras. 125—129.

The revenue incidence is shown as follows : Commissioner's paras. 7, 13, 20, 26, 29, 36.

		Per cultivated acre. Rs. As. P.
Main portion of district		... 0 14 9
Outlying taluqs ...	I.	... 0 7 0
	II.	... 0 6 11
	III.	... 0 9 8
Whole district		... 0 9 7

The following statistics are given as regards tenures : Commissioner's paras. 14, 23, 25, 27, 29.

		Zamindari.	Pattidari.	Bhayachara.
Main portion of district		188	79	466
		Add 80 villages not classed.		
Outlying taluqs ...	I.	45	46	76
	II.	1	...	20
	III.	...	...	52

Paras. 230, 235.

The above include a number of jagirdari estates, classed as zamindari or bhayachara, according as settlement was made with the jagirdar or with the cultivating community. In the former case the cultivators were "protected from batai exactions "by the substitution of a very light mali-"kana rate;" in the latter "a biswadari "allowance" was assigned to the jagirdar, proportionate to his efforts and expenses in extending cultivation.

Commissioner's para. 7.

The preponderance of bhayachara tenures and of a Jât population points to a large percentage of proprietary cultivation.

Commissioner's paras. 9, 18, 25, 29, 32.

The irrigation percentage was 7·66 for the whole district, and for the parts as follows:

		Per cent.
Main portion	... ...	10·21
Outlying taluqs ...	I. ...	0·35
	II. ...	...
	III. ...	0·52

Page 26.

The culturable waste was 40 per cent. of the assessable area.

The revenue-rates were as follow:

Paras. 8, 9, 13, 26, 27, 131.

		Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Manured (*nyai*)	...	2	0	0	1	8	0
Irrigated — By well	...	2	0	0	0	12	0
Irrigated — By flooding	...	1	8	0	1	0	0
Irrigated — Clay (*karar*) / Sand (*gasra*)		1	12	0	1	4	0
Dry — Clay	...	0	15	6	0	8	0
Dry — Clay and sand (*der*)	...	0	15	6	0	11	0
Dry — Sand I. (*gasra*)		0	13	6	0	10	0
Dry — Do. II. (*tibee*)		0	10	0	0	6	0

The dry revenue-rate, however, fell in some cases (soil not specified) as low as 8, 6, and 4 annas. Waste was assessed at rates varying from 4 to 18 annas. The proportion of free waste varied from 20 to 100 per cent. on the cultivated area.

Review, para. 28.
Commissioner's para. 20.
Report, page 26.

The settlement is for 30 years, except in the first of the three outlying taluqs, viz., Mukhtsar, which was settled at very light rates for ten years only, on account of its depressed condition and the large extent of waste.

Page 41 of Mukhtsar Report.

† Old assessment, Rs. 62,729.
New assessment, Rs. 97,877.

The re-settlement of this taluq added Rs. 35,148 to the revenue demand.† Cultivation had increased 81 per cent., and cattle and ploughs very much more. The assessments were made on produce estimates, prepared not by means of experiments, but "from answers to enquiries, "checked by any knowledge we possess." Fresh enquiries were made when the returns seemed doubtful. Commutation prices were the averages of 30 years, ending

Pages 31, 39, 34, 40, 43, 29, 32, 35.

1870. One-fifteenth of the gross produce of the tract was taken as the Government share, and distributed over the villages according to soil-rates and plough-jamas. The scanty rainfall explains why the share was fixed so low. At the same time, pargana Mandot, which became Government property in 1855, and was summarily in 1856, was for the first time brought under regular settlement, the result being a revenue gain of Rs. 19,564.† The revenue incidence in these two tracts was as follows per cultivated acre:

† Old assessment, Rs. 45,770. New assessment, Rs. 65,334.

	Old.			New.			Percentage of revenue increase.
	Rs.	As.	P.	Rs.	As.	P.	
Mukhtsar ...	0	8	2	0	11	2	43
Mandot ...	0	5	4	0	6	1	56
Total ...	0	7	0	0	7	5	

Thus the increase of revenue was due chiefly to increase of cultivation.

The cost of these settlements is not shewn. They expire in 1882, while the settlement of the rest of the district expires in 1885-86. The revenue-roll at the end of 1877-78 was Rs. 5,05,729, or about Rs. 5,000 in excess of the settlement demand as shewn above. Lapses and resumptions of revenue-free tenures account for the difference. At present (1878-79) the revenue incidence on cultivation throughout the district is shewn as Re. 0-7-8,* and the irrigation and culturable waste percentages as 17 each.

Administration Report of 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

RAWAL PINDI.

Area ... 6,218 *sq. miles.*
Population ... 711,256.

Paras. 110, 387.

SETTLEMENT operations were begun in June 1855, and the final report, which was written before the fairing out of records had been completed, is dated October 1864. The settlement thus lasted about ten years. It was effected by the district officer, with a native establishment, and the results were as follows:

Paras. 270, 111.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
7,70,500	7,29,665	-40,835	5·3	1,69,22

Para. 275.

These figures include revenue-free grants. The new khalsa revenue was only Rs. 6,77,864. There is nothing to shew what the old khalsa revenue was. According to the proportion above, it would have been about Rs. 7,16,000.

Paras. 194—198.

Previous settlements were summary. There was one in 1848, which was heavy and another at a reduction in 1851, revised in 1853. The amount of these assessments is not shewn.

Paras. 139, 141—2, 145—6.

Soils were divided into three classes—manured, and first and second class unmanured soil. Irrigated lands formed a class by themselves. Circle revenue-rates were then obtained by "enquiry and investigation." It was found that in some parts zamindars had distributed the revenue demand rateably over soils; in others wells or homestead lands paid most of the revenue, dry land paying a low all-round rate. The revenue-rates selected were applied to the circle soil areas and to the village soil areas, so as to give the circle and village assessments, which were modified by comparison with each other, and by local considerations, the latter especially carrying great weight. The assessing officer writes:—"After all, this "rate (*i. e.*, the revenue-rates), with the "ilaqawar jama obtained thereby, is more "useful as a standard of comparison than "as a criterion in itself. What is really "wanted is the former, other considerations "guiding mainly to the ultimate result." Two-thirds of the cultivated area under tenants paid rent in kind.

Paras. 207, 238.
Para. 305.

The incidence per cultivated acre varied as follows: Para. 270.

Tahsil.	Rs.	As.	P.
I.	1	1	4
II.	0	10	9
III.	1	8	3
IV.	1	2	8
V.	0	14	7
VI.	0	12	10
VII.	0	7	9
Whole district ...	1	1	7

Rents in kind ranging from one-half to one-fifth the gross produce, the Government share would vary from one quarter to one-tenth. Para. 367.

Tenures are shewn as follows: Para. 349.

Zamindari	196
Pattidari	502
Bhayachara	960

The percentage of proprietary cultivation was 57·6, and in some places rose as high as 70 to 80. Paras. 184, 305. Para. 207.

The culturable waste at settlement was 30 per cent. of the whole arable area. There are no irrigation statistics. Para. 184.

Maximum and minimum revenue-rates were as follow: Para. 148.

		Maximum.			Minimum.		
		Rs.	As.	P.	Rs.	As.	P.
Irrigated ...	...	7	0	0	1	8	0
Dry ...	Manured ...	3	8	0	1	0	0
	Unmanured I.	2	0	0	0	8	0
	Ditto II.	1	4	0	0	4	0

The khalsa revenue demand of 1865-66 was Rs. 6,78,096. Lapses and resumptions of revenue-free lands raised it to Rs. 6,88,812 by the end of 1877-78. Less than 2 per cent. of the cultivated area, as at present shewn, is irrigated. The culturable waste percentage has fallen to 17½, and the revenue incidence on the cultivated acre to Re. 0-12-1*. Seventy per cent. of the area of the district is unculturable. Revenue reports. Administration Report.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

The settlement expires this year (1880). Review, para. 6.

HISSAR.

Area	...	3,540 *sq. miles.*
Population	...	484,681.

Para. 3.

SETTLEMENT operations began in June 1860, were stopped by famine, and were resumed in November 1861. Measurements were completed by December 1862, assessments by March 1863, and the record of rights by March 1864. Excluding the famine period, the settlement occupied about three years. It appears to have been made by a native Extra Assistant Commissioner under the Deputy Commissioner. The result was a decrease of revenue from Rs. 4,68,904 to Rs. 4,10,226, *i. e.*, by Rs. 58,678, or 12½ per cent. The settlement is called inexpensive, but no figures are given of the cost.

Financial Commissioner's para. 6.

Para. 97.

Page 28.

Financial Commissioner's para. 7.

Para. 1.

The first regular settlement, for 20 years, was made in 1840, excluding, however, 182 villages subsequently brought under assessment.

Paras. 87—93.

Circle revenue-rates were framed from existing rent-rates in approved villages. "The villages which, either from scarcity "of cultivators or other causes, do not pay "the full rent to the proprietors, have not "been considered as models. On the other "hand, the Skinner Estate villages, where "the cultivators pay the full rent, have "been viewed as the basis." Lands were divided into four classes—unirrigated, and irrigated by canals, wells, or flooding. On unirrigated land the rent-rate was reduced one-fourth for weather chances; canal-irrigated land was assessed at the highest dry revenue-rates, *plus* an addition equal to the rates charged by the canal authorities for the use of water, varying according to supply and kind of irrigation (flow or lift), and the result was checked by a consolidated wet jama calculated on existing rent-rates (less one-fourth) in canal villages. The revenue-rates got by both modes were much the same, and the rates finally adopted were consolidated rates. On flooded lands, rent-rates were reduced by one-fourth or one-half, and on well-irrigated lands by one-third, the revenue-rate being in every case half the remainder. There was also an all-round revenue-rate of one anna per acre on waste, after deducting one-fourth of the area as grazing ground.

On 61 per cent. of the cultivated area, the revenue incidence was $7\frac{1}{4}$ annas per acre; on the remainder, $3\frac{2}{3}$ annas; on the whole cultivated area, 5 annas 10 pie. The Government share of the gross produce was supposed to vary from one-eighth to one-twelfth. Page 31.

Canal villages are said to have been over-assessed in 1840. The revenue attributable to canals in 1864 was estimated at Rs. 37,143. Para. 71. Para. 101.

Nothing is said about tenures.

The proportion of the cultivated area irrigated at settlement was $7\frac{1}{2}$ per cent. The culturable waste was $43\frac{1}{2}$ per cent. of the arable area. Page 31.

The term of settlement is 20 years, expiring apparently in 1883. Financial Commissioner's para. 5. Punjab para. 2. Revenue Report, 1877-78.

Maximum and minimum revenue-rates were as follows:

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Unirrigated	...	0 6 0	0 3 0
Irrigated by Canals (Flow)	...	1 4 0	0 15 0
Irrigated by Canals (Lift)	...	1 0 0	0 12 0
Irrigated by Wells	...	1 0 0	.....
Irrigated by Floods	...	0 12 0	0 8 0

Paras. 22, 25.

The soils were the usual loam, clay, and sand, the latter predominating in the uplands. Paras. 15—18.

The khalsa revenue of 1864-65 is shewn as Rs. 4,26,123. The difference (Rs. 15,897) between this figure and the settlement revenue shewn above appears to be due to the omission of 17 villages from the settlement returns. The present khalsa demand appears as Rs. 4,24,110 (31st March 1878). The irrigation percentage is 10 ($8\frac{1}{2}$ per cent. canals), the culturable waste percentage 45, and the revenue incidence on cultivation has remained unchanged. Revenue Reports. Administration Report of 1878-79.

SHAHPUR.

Area ... 4,780 *sq. miles.*
Population ... 368,796.

Pages 55, 59, 60, 83.

THE regular settlement of this district lasted from 1854 to September 1866, with one break of a year in the mutiny, and another, of rather more than a year, between the conclusion of work (in 1860-61) in the old tahsils of the district, and the beginning of work (in July 1862) in the tahsils transferred from Leia and Jhelum. The district officer was in charge, with a settlement staff. Results were as follows:

Pages 99, 124.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,88,237	3,76,512	—11,725	3	1,75,240

But the khalsa revenue was only Rs. 3,80,146.

Pages 57—59.

The old tahsils had thrice come under summary settlement, viz.,—

	Rs.
1847—1850	3,42,492
1852	2,90,503
1853	2,67,455

The first assessment was much too heavy.

Pages 78—79.

In the rest of the district the second summary settlement was made in 1852, at a considerable reduction (figures not given), except in one pargana. This settlement was for two years; it lasted till the mutiny, and thence till the regular settlement.

Pages 68—72.

The process of assessment in the old tahsils was as follows: Soils were classed, according to position, as uplands (*hithâr*) lowlands (*utâr*), and middle (*naka*); and also with regard to irrigation. From the kankut and batai papers of certain villages, for five or six years preceding annexation, an estimate was formed "of the "average outturn of land situated in cer- "tain localities, with reference to capa- "bility for being irrigated." Actual experiment seems to have been resorted to upon two occasions only, but the result of the assessing officer's enquiries of all sorts was to shew that, after deducting the usual cesses, there remained four maunds of grain, which, converted into cash at one rupee the maund, gave a produce revenue-rate of one rupee per bigha for the worst well-watered land of the best circle, and for all the

ordinary well-watered land of the district. But the main basis of revenue-rates was the existing jama in selected villages, upland, lowland, and middle, which paid the Government demand with ease and punctuality. The revenue incidence on the malguzari area in these villages was noted and compared with that on villages notoriously under-assessed or over-assessed; and then revenue-rates for soil classes were apparently got by applying rates to the soil areas, such as would bring out the general malguzari rate when combined. The rates, when got, were by no means implicitly accepted. The one example of assessment given shews that the assessing officer did not scruple to raise his revenue-rate jama by nearly 30 per cent., if he thought the village could bear it.

In the rest of the district, after the formation of assessment circles and village groups, certain villages were selected as fairly assessed, and the jama of each was divided by its cultivated area. This gave a general revenue-rate. In three of the circles separate rates had to be got for soils of different degrees of fertility. This was done by actual experiment, and by enquiry as to the relative fertility of the soils: the results by both methods are said to have tallied remarkably. The general suitability of these rates was tested by working out the jamas of villages in each class by means of them. They were then put into their final shape. Pages 92—96.

Produce jamas were also worked out at the average prices of five years past, less one-fourth, the Government share being taken as one-third of the grain-rent (usually half the gross produce) after deducting half the local cesses and 10 per cent. for village expenses. This very low proportion was assumed because the harvests throughout this tract were entirely dependent upon rain.

Both officers also tested their assessments by native estimates.

The general result was more a re-distribution and equalisation of the assessments than any great change in the revenue demand. The new revenue incidence on cultivation was Rs. 1-4-3. But the cultivated area was only 18 per cent. of the culturable and cultivated area together. The irrigation percentage was 42. Page 98. Statement VI.

Tenures were principally bhayachara. No less than 72 per cent. of the cultivated area was tilled by proprietors. Rents were all in kind. Pages 101, 111. Statement VII.

The revenue-rates adopted were as follows:

Pages 71, 93—94.

I.—Old tahsils.

(*a.*) Land watered by both wells and floods—

	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.
Lowlands ...	2 8 0	2 0 0

(*b.*) Lands watered by wells only—

	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.
Lowlands ...	1 12 0	1 8 0
Uplands ...	1 0 0	.....
Middle ...	1 12 0	1 10 0

(*c.*) Lands watered by floods only—

	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.
Lowlands ...	1 12 0	1 4 0

(*d.*) Rain-fed lands—

	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.
Uplands, Middle ...	0 8 0	.....

II.—Rest of district.

		Rs. As. P.
Lands watered by	Wells and floods	2 0 0
	Floods ...	1 8 0
	Rain ...	1 0 0

These last-quoted rates apply to the riverain portion of this tract. For the remainder, soils were divided according as they were watered by (1) hill torrents, or (2) natural drainage, or (3) simply by rain, and the revenue-rates adopted were—

	Maximum.	Minimum.
	Rs. As. P.	Rs. As. P.
(1) ...	2 0 0	1 0 0
(2) ...	1 8 0	0 10 0
(3) ...	0 12 0	0 8 0

The wide sandy tracts were assessed at 4 to 6 annas per cultivated acre.

Review, para. 32.

The settlement expires next year (1880-81).

Revenue reports.

The khalsa revenue demand in 1864-65 was Rs. 3,65,550. It has fluctuated greatly since then, on account of progressive jamas, alterations in the number of villages on the revenue-roll, and gains and losses by fluvial action. In 1873-74 it rose as high as Rs. 3,86,114, and it was Rs. 3,83,888 at the end of 1877-78. The total assessment of the district in that year is shewn as Rs. 4,15,604. At present (1878-79) the irrigation percentage is 72 (nearly 6 per cent. canals), and the culturable waste percentage 70. The revenue incidence on cultivation is Re. 0-12-8.*

Administration Report.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

GURDASPUR.

Area ... 1,818 *sq. miles.*
Population ... 906,126.

GURDASPUR is one of the districts which has had two regular settlements. The first was effected by the district staff, beginning in 1849, and was finished in 1852 for one portion of the district, and in 1854 for the rest (the Bari Doab portion), which was assessed by another officer. The results were (khalsa revenue only)— Pages. 48, 5, 52, 53, 16, 25.

	Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
	Rs.	Rs.	Rs.		Rs.
Bari Doab	6,29,376	5,86,340	—42,036	6·18	1,63,090
Remainder	Not shewn	3,13,201	Reductions of 4 to 24 per cent. in the various assessment circles.		Not shewn.
Total ...	...	8,99,541	...		...

Jagir assessments amounted to Rs. 1,81,507.

The mode of assessment is described for the Bari Doab tract only: "From the ja- "girdars' appraisements of crops for several "years the average outturn of five or six "villages in each circle was obtained. A "fourth of all grain, valued in money at "the average market rate for the past ten "years, was taken as the Government share, "and the value of the standing *zabti* crops "at the existing rates added made up the "Government jama. From the aggregate "jama of five or six mahals thus computed "average soil-rates were struck out in pro- "portion to their degrees of fertility, as "graduated by experienced zamindars." Pages 14, 23.

The revenue incidence on cultivation was— Pages 18, 23.

Tract.	Pargana.	Per cultivated acre. Rs.	As.	P.
Bari Doab	I. ...	1	10	10
	II. ...	1	14	8
	Total ...	1	13	8
Remainder	I. ...	1	7	1
	II. ...	2	7	11

Review, paras. 6, 7, 8 (pages 46, 48).

Pages 53, 59.

Tenures are shewn as follows: Pages 15, 72.

		Zamindari.	Pattidari.	Bhayachara.
Bari Doab	I. ...	92	212	293
	II. ...	48	343	296
Remainder	...	126	703	19

The irrigation percentages were— Pages 32, 69, 71.

Bari Doab	... ...	25·3
Remainder	I.	13
	II.	54

The area of the last tract was small.

Pages 36, 40, 69.

The culturable waste percentage for the entire district was 11·2.

Pages 36, 37, 40, 41.

The general incidence on cultivation was Rs. 1-12-2 nearly.

Pages 49, 60, 61.

The settlement was for ten years, ending in 1864 for the Bari Doab portion, and in 1862 for the rest.

Revenue Report of 1867-68, Statement XXI.

The second regular settlement was made in two years and nine months, beginning with 1862, and gave the following results (khalsa and jagir together):

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,56,092	11,56,056	—1,00,036	9	81,088*

* Punjab letter No. 1302, dated 13th September 1875.

† Revenue Report of 1868-69, page 94.

The cost is otherwise shewn as Rs. 40,085, and the *net* cost as Rs. 13,564 only.† But these figures do not include Rs. 37,297 spent between 1869 and 1873 in preparing a record of rights for part of the district, and the figures of 1875 have been preferred, as later and more accurate. These, again, do not include the portion of the Settlement Commissioner's pay debitable to the Gurdaspur district. The whole of his pay has been debited against Amritsar, which thus shews a settlement in appearance much more expensive than that of either Gurdaspur or Sialkot.

Famine Papers, Vol. II., p. 655.

No report was ever submitted. The principles of assessment were the same as in Amritsar. Water-advantage rate is not included in the above figures. It varies from Rs. 1-4-0 near the head of the Bari Doab canal to one rupee lower down.

Punjab Irrigation Reports.

The proceeds have been as follows:

	Rs.		Rs.
1874-75 ...	21,244	1876-77 ...	12,766
1875-76 ...	23,983	1877-78 ...	14,847

Well lands, as usual, are under-assessed as compared with their assessment under the old wet-rates.

Revenue Reports.

In 1867-68 the district lost territory assessed at Rs. 2,43,905 to Amritsar, but recovered it again in 1869-70. Subsequent lapses and resumptions of revenue-free lands raised the khalsa demand to Rs. 10,55,391 on the 31st March 1876. The present (1878-79) revenue incidence on cultivation is Rs. 1-7-6,* and the irrigation percentage is nearly 15 (3·2 per cent. canals). Culturable waste is only 9 per cent. of the assessable area.

Administration Report.

* This is the incidence of the gross assessments, including alienated and miscellaneous revenue, and water-advantage rate.

The settlement expires in 1885.

AMRITSAR.

Area ... 1,562 *sq. miles.*
Population ... 832,750.

THERE have been two regular settlements of the Amritsar district. The first of these, which related to a portion only of the present district, began in 1849. The Bari Doab portion was reported on in July 1854, but the Rechna Doab portion had to be re-measured, after which reductions were found necessary, and the final report was not submitted till 1859, after an interval of nine years. The settlement was effected by the district staff. It was made on two-thirds assets, and the results were (khalsa revenue only):

Pages 5, 118.

Pages 10, 17, 33, 113.

Pages 3, 4, 6, 7, 35. (The figures in paragraph 8 of the review relate to the old areas, and are partly incorrect, *e. g.*, the Rs. 1,40,872 jagir shewn against Saurian really belong to Amritsar, *vide* page 9.) Page 87 (see, however, page 100, where the Rechna Doab revenue is differently stated).

	New assessment.	Cost.
	Rs.	Rs.
Bari Doab portion	7,31,325	1,55,023
Rechna Doab portion	2,02,305	12,074*
Total ...	9,33,630	1,67,097

* Exclusive of Settlement Officer's pay.

Jagir and inam revenue amounted to Rs. 2,90,953.

Changes in area prevent exact comparison with the summary settlement, but the general result was to reduce the khalsa revenue demand by about Rs. 1,25,000.

Pages 15, 9, 27, 100.

The three parganas of the Bari Doab portion were severally assessed by the three following processes:

(1). The total assessment of the circle was determined after inspection, and was then divided according to class rates over the several mahals, and the assessing officer, "after consulting the tahsildar, "adopted or modified the rate jama." A plough jama, got by "multiplying the "number of ploughs in a village by an "average rate struck out from the total of "the circle," was found useful as a check.

Page 10.

The incidence of the revenue thus assessed was Rs. 1-14-9 per cultivated acre (khalsa and jagir). The summary assessment had fallen at Rs. 2-2-3.

(2). A total revenue for the khalsa portion was obtained by examining "the "papers of the jama of each mahal," with the aid of all obtainable statistics, written and oral. "The mahals were classified, "and from the total estimated jama of each "class its rates were deduced. The jamas "by rates were compared with the esti- "mated jamas, and adopted or rejected, as "seemed fit."

Page 15.

The incidence on cultivation here was Rs. 2-2-6, against former incidence Rs. 2-9-9.

Page 25.

(3). The total pargana assessment was fixed upon (it was the old assessment, *plus* the extra collections realised by the headmen), and was then distributed over the circles, and over the classes within the circles. Finally, revenue-rates for wet and dry land were educed by further subdivision, in the case of other than *zabti* lands, which latter had their own known rates. A plough-rate was also used: "the ploughs of each class being correctly "enumerated, the revised jama was "divided by their sum, and thus the "average value per plough found." The incidence on cultivation was Rs. 1-1-5, against a former incidence of Rs. 1-1-1.

Page 66.

Page 28.

Pages 81, 82.

The summary khalsa assessments were reduced 10 and 15 per cent. in parganas (1) and (2); in (3) they were raised 2 per cent.

Pages 118, 85, 87.

In the Rechna Doab, where the reduction was 31 per cent., the incidence per cultivated acre was Rs. 1-11-3.

Pages 2—4, 84, 87.

For the entire district it was Rs. 1-10-11.

Pages 10, 16, 21, 30, 111.

Tenures are shewn as follows:

	Zamindari.	Pattidari.	Bhayachara.
Bari Doab ...	69	23	1,024
Rechna Doab ...	37	33	423

There was a large proportion of Jât proprietary bodies.

Pages 68—79, 114.

The irrigation percentage was 19·1 in the Bari Doab portion, but varied considerably in parts: and the culturable waste percentage was 18. For the Rechna Doab portion these percentages were 40·8 and 30 respectively.

Pages 22, 68—79.

The revenue-rates used in the Bari Doab portion were as follows:

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Dry ...	Drainage hollows (*rohi*) ...	2 6 2	1 6 6
	Uplands (*maira*)	1 12 7	0 13 9
	High sand (*tibba*)	1 4 2	0 6 9
Wet ...	Lowlands ...	4 6 1	1 9 11
	Uplands ...	4 5 3	0 14 6

This settlement was for ten years.

The second regular settlement for the whole district was made at half assets. It began in 1863, and lasted three years

and two months, with the following results (khalsa and jagir together) :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,08,737	11,57,852	—50,885	4·2	1,51,332*

Revenue Report, 1867-68, Statement XXI.
Punjab letter No. 1302, dated 13th September 1875.
* *Net* cost shewn as Rs. 24,977, and total cost as Rs. 51,502, in Revenue Report of 1868-69.

No report of this settlement has ever been submitted, but the main principles of assessment are known. The assessing officer relied chiefly on his produce estimates, taking the Government share at one-sixth. Irrigated land was assessed at dry-rates, with the addition of a lump rate on wells, and of a water-advantage rate of one rupee per acre on lands under the Bari Doab Canal. The well-rate, as in other districts assessed after this fashion, proved much lighter than the old wet-rates on well lands, and the question as to the best method of assessment for well lands stands over for decision at next settlement. Water-advantage rate is not included in the figures given above. It has yielded the following income in four years :

Famine Papers, Vol. II., page 658.

	Rs.		Rs.
1874-75	... 46,633	1876-77	... 43,320
1875-76	... 65,403	1877-78	... 42,448

In 1867-68 the district received territory assessed at Rs. 2,45,905 from Gurdaspur, and parted with territory assessed at Rs. 2,17,791 to Sialkot, but in 1869-70 the territory received from Gurdaspur was returned. Subsequent lapses and resumptions of revenue-free lands raised the khalsa revenue-roll to Rs. 7,86,956 at the end of 1877-78. At present (1878-79) the revenue incidence per cultivated acre is shewn as Rs. 1-5-2.* Only 11 per cent. of the assessable area is culturable waste. The irrigation percentage is 32 (13 per cent. canals).

Administration Report.

* This is the incidence of the gross assessments, including alienated and miscellaneous revenue, and water-advantage rate.

The settlement expires in 1885.

SIALKOT.

Area ... 1,955 *sq. miles.*
Population ... 1,005,004.

Pages 2—5.
Para. 420.
Pages 69—71.

THERE have been two regular settlements of the Sialkot district. The first, made at two-thirds assets, by a Settlement Officer with a European assistant, besides native assistants, occupied 6½ years, from March 1850 to October 1856. The jama, as then fixed, was Rs. 9,35,105. After the mutiny the records had to be made out over again, and large reductions were at the same time found necessary, so that the ultimate results were as shewn below :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,61,759*	7,28,012	—2,33,567	24	3,38,223

* Besides Rs. 1,82,185 jagir.

This is exclusive of jagir to the amount of Rs. 1,54,452.

Pages 55, 56.

The only previous settlement was the summary settlement made in 1846, on the average of the three previous years, less 10 per cent., commuting grain into cash at the high prices then prevailing. This lasted well enough till 1850, when prices fell, and remissions had to be made, amounting to Rs. 75,768 in the year next before the revised settlement.

Paras. 219, 220, 223.

Paras. 226, 235.

† Cash rates on superior crops (sugarcane, &c.)

The system of assessment was as follows :—Assessment circles were formed with regard to physical features, productive capacity, and chiefly to irrigation, whether artificial or from rainfall, the statistics for this purpose being the rain registers, the yield of wheat per average acre of wet and dry land (as furnished by old patwaris, appraisers under the Sikh system, jagirdars' agents and others), and the *zabti* revenue-rates† of the summary settlement jamas. Classes of villages were formed within the circles. The classification was finally checked by comparison of the pressure of the summary jamas, and by "average test rates applied (to "the assessable area) to discover defects "in classification." Then the assessing officer proceeded to form four estimates, viz.,—

Para. 236.

1. Chaudhri's estimate.
2. Plough estimate.
3. Well estimate.
4. Produce estimate.

(1) The first was collected on visiting each village, and was tested by enquiries made separately by the assistants, and again by the assessing officer with the aid of appraisers (*kanohis*). (2) The plough estimate was formed "by applying to the number of ploughs any "local rate known or adopted in Sikh "times." These rates ranged from Rs. 13 to Rs. 30. (3) For the well estimate "a "well with an average area* was taken, "cropped with the usual produce (for which "there appear to be fixed rules)," the gross outturn was calculated, working expenses deducted, and then experiment was made to find "at what rate per acre sufficient "margin of profit could be allowed." At a revenue-rate of Rs. 2 per acre, the profit was Rs. 60, or 13 per cent. This was taken as the average, and the well-rates fixed with regard to it varied from Rs. 40 to Rs. 84, the general maximum, however, being Rs. 75. (4) The produce estimate was worked out in the same way as in Jullundur, but commutation prices were taken from the average of 30 years, and the Government share was assumed at one-fourth.

Para. 237.

Para. 238.

Para. 241.

* 12 acres kharif and 18 acres rabi (Appendix 19).

Para. 243.

Para. 244.

The rest of the process is described by the assessing officer in these words: "Starting with these principles and "estimates, I was in a position to consider "how far the summary settlement jama "required alteration. Rates were then "eliminated for each denomination of "wet, moist, and dry land by assuming "relative value of each according to proportions locally acknowledged, and by "distributing the total jamas according "to those proportions on the total area "of each denomination for each class. "These rates were then compared with "each other and summary settlement "rates, and one circle of assessment with "those of another; till we were able "at last to deduce revenue-rates fit for "approval. The revenue-rates were "then applied to each village, and a "fair jama was determined to compare with summary settlement. In "fixing the new assessment I had "further to help me the rates adopted in "Gujrat, Gujranwala, Amritsar, and "Gurdaspur. Consideration was had to "no *one* particular circumstance, but to "everything that bore on the condition "and capacity of villages, such as caste "of proprietors, quality of soil, population, state of village, style of crops "produced, means of irrigation—all of "which were expressed in percentages,

Para. 251.

"so as to facilitate comparison of one "village with another."

General Abstract. The rates there shewn are on cultivation + fallow, viz.,—

	Rs.	As.	P.
Maximum ...	2	10	7
Minimum ...	0	15	6

The result was a revenue incidence of Rs. 1-10-0 per acre of cultivation. In the lightest-assessed circle it was Re. 1; in the heaviest-assessed, Rs. 2-11-0. On estimated gross outturn the incidence was Rs. 25 per cent. This was after the reductions of 1858-59.

Tenures were as follows:

Paras. 348, 305.

Zamindari.	Pattidari.	Bhayachara.
135	1,172	633

Para. 342.

This excludes a small portion of the district transferred from Gujrat. Pedigree tables were prepared as a guide to the distribution of the assessment over the proprietary body. The percentage of proprietary cultivation was as high as 67.

Appendix 15. Paras. 385, 389.

In parts of the district rent proper did not exist, but in most of these cases it has since been created, under the name of *malikana*, at 10 to 15 per cent. on the share of revenue payable by the land, the tenant being recorded as an hereditary tenant or occupant (*qabiz*).

Paras. 363—364.

There were a few taluqdari cases, settled by fixing a cash payment to be made together with the jama, and to be drawn by the taluqdar from the tahsil treasury.

General Abstract.

The irrigation percentage was 48, and the culturable waste percentage 23.

Review, para. 8.

The local Government were of opinion that the reduction of 23* per cent. was necessary, the summary assessment having been based on temporary and insufficient data, and consequently being no fair criterion of what could be raised from the land.

* Khalsa and jagir.

The maximum and minimum revenue-rates were—

Circle statements.

		Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Land watered by	Wells ...	4	0	0	1	1	0
	Floods ...	2	4	0	0	8	0
	Rain ...	2	0	0	0	8	0
	Recent fallow...	1	8	0	0	4	0

General Abstract.

These rates, however, gave a jama of Rs. 12,00,999.

Revenue Report, 1867-68, Statement XXI. Punjab letter No. 1302, dated 13th September 1875.

The second settlement, at half assets, began in 1865, and lasted two years and ten months, with the results subjoined (khalsa and jagir together):

Old assessment,	New assessment,	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,88,872	8,59,910	—28,962	3·3	82,715*

* *Net* cost shewn as Rs. 43,791, and total cost as Rs. 60,848, in Revenue Report of 1861.

Famine Papers.

Assessments were made at one-sixth of the gross produce. Well lands were treated as in Amritsar. There are no canals. In 1866-67 Rs. 73,112 were gained by lapse of jagirs, and the following year saw territorial transfers from Amritsar, involving Rs. 2,17,991 of revenue. Lapses and resumptions of revenue-free lands continued to increase the khalsa demand, and Rs. 17,393 were added by progressive assessments in 1875-76 and 1876-77. The result was that on the 31st March 1878 the khalsa demand stood at Rs. 11,04,629. The present revenue incidence on cultivation is Rs. 1-6-11 only.* More than half the cultivated area of the district, as now constituted, is under irrigation. The culturable waste is only 11 per cent. of the whole assessable area.

Administration Report, 1878-79.

The settlement expires in 1885.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

GUJRANWALA.

Area ... 2,563 *sq. miles.*
Population ... 550,576.

Report, page 84. The report is dated 27th October 1868.

Pages 45, 66.

Page 67.

Punjab letter No. 1302, dated 13th September 1875.

SETTLEMENT operations began in January 1866, and ended in October 1868, having lasted two years and ten months. The work was done by a Settlement Officer and a native assistant, with the help of the Collector's Office.

The results were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,28,554	5,57,050	28,496	5·3	1,34,867
	rising in ten years to	rising in ten years to	rising in ten years to	
	6,09,061	80,507	15·2	

The first three columns agree substantially with the figures in the Settlement Commissioner's letter in the Revenue Report of 1868-69. The Settlement Report shews the cost as Rs. 87,246 only.

This, however, includes jagir. For khalsa revenue only, the immediate results seem to have been—

Revenue Reports, 1868-69 and 1869-70.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,20,046	4,38,604	18,558	4·4	1,34,867

According to the settlement report, the new khalsa revenue would appear to have been Rs. 4,43,757,* and it is shewn as Rs. 4,43,298 on 31st March 1870. Changes made by alluvion, &c., account for the discrepancies between these different sets of figures. There are no data for estimating the progressive increase of the khalsa assessments.

	Rs.
* Total new assessments ...	5,57,050
Deduct jagir, less muafi (pp. 12, 13) ...	1,13,293
	4,43,757

Summary settlements were the rule till 1854, when regular settlement operations were begun, ending in 1856 with "a reduction of 17 per cent. on former "assessments." The new assessments had, however, to be revised and further reduced till 1860. Former assessments are shewn as follows:

	Rs.
Summary settlement of 1850 ...	6,24,969
Regular settlement, 1854 ...	5,32,536
Reduced settlement jama, 1859 ...	5,11,996

Form IV.

Pages 38—40.

As to the mode of forming the present assessments, the Settlement Officer writes: "Besides the two sources of information "which formed the most important basis "on which to frame the estimates, namely, "the statistics furnished by an elaborate "field survey, and the knowledge obtained "by personal inspection of the whole dis-"trict, there were several standards of

"assessment to shew the approximate rate "on the cultivated area suitable for each "circle." These were—

The present jama (revision of 1859-60).
The plough jama.
The produce jama.
The new rate jama (including well and soil jama).
The Extra Assistant Commissioner's jama.

The approximate plough jama of each circle was obtained by dividing the assessable area by the ascertained number of ploughs, and then multiplying the quotient by the rate per acre of the existing jama. This seems to have given the average revenue demand per plough, and then the lump circle jama could be distributed over the villages with regard to the number of ploughs in each.

The produce jama was obtained by dividing the produce of the district into four classes according to value, and then calculating the gross value of the quantity of each class grown in each circle. It is not clear whether the areas under each class were actually measured up, or merely assumed according to the proportions supposed to be prevalent in the circle. Outturn per acre and commutation prices were taken from existing memoranda on the agriculture of the district, supplemented by enquiries from zamindars, grain-dealers, village weighmen, and qanungos, and by examination of prices current "for "a series of many years past." The Government share was taken at one-sixth.

The new rate jama was obtained by multiplying the number of wells by a well-rate, and then adding to this a moderate rate on the whole assessable area as unirrigated.

All these were *circle* jamas. The plough jama proved the highest, and the produce jama (in its ultimate shape) the lowest, but the differences were not great. The plough jama was 0·8 in excess of that actually assessed, thus shewing that a slight reduction was made in the average revenue-rate of last settlement. Page 223.

The initial incidence of the new assessments, varying by circles from Rs. 1-7-2 to Re. 0-10-0, was as below: Form V.

Parganas.	Per cultivated acre. Rs. As. P.
I.	1 0 2
II.	1 3 1
III.	0 15 9
Whole district	1 0 11

Financial Commissioner's para. 8.

On estimated gross produce it was 16·3 per cent.

Pages 61—64.

The district is held by agricultural tribes, mostly cultivating their own lands, and distributing the revenue among themselves by ancestral or customary shares. A family tree was made part of the village records, determining the number and rights of sharers, and the customary law as to distribution of revenue. The villages in each class numbered as follows :

Zamindari	...	...	138
Pattidari ...	Perfect ...	...	69
	Imperfect ...	...	907
Bhayachara	...	...	85

Page 31.

About 71 per cent. of the settlement cultivated area appears to have been tilled by proprietors. There were 35,839 proprietors to 33,449 cultivators (2,411 hereditary).

Page 58.

The Government reserves demarcated did not differ from those demarcated in 1854-56, and contained 148,474 acres.

Page 221.

More than 56 per cent. of the arable area was uncultivated. The irrigation percentage was as high as 80. Cultivation had increased 18·29 per cent., and irrigation 20½ per cent., since last settlement.

Financial Commissioner's para. 13.

Review, para. 9. Financial Commissioner's para. 13.

Page 45.

The present settlement was regarded at the time as needlessly light. It was estimated that Rs. 1,67,335 had been lost by the new rate on wells, in place of the old consolidated wet-rates. The settlement is for 20 years, expiring on the 30th November 1887 and the 30th June 1888.

Statement IV.

The revenue-rates used in assessment were—

	Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Rate on wells, per well...	20	0	0	8	0	0
Sailabi lands, per acre ...	1	8	0	1	4	0
Rain-fed lands do. ...	0	14	0	0	7	0
Recent fallow do. ...	0	8	0	0	3	0

The old consolidated rates on lands watered by wells had ranged from one to two rupees per acre.

Revenue reports.

Lapses and resumptions of revenue-free lands, besides progressive jamas falling due in 1877-78, raised the khalsa demand on the 31st March 1878 to Rs. 4,60,303. The entire revenue of the district on the same date is shewn as Rs. 6,04,761. The present revenue incidence on cultivation is Re. 1-0-6,* and the irrigation and culturable waste percentages as 63½ and 34 respectively.

Administration Report, 1878-79. The total assessments here are Rs. 6,30,971.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

GUJRAT.

Area ... 2,029 *sq. miles.*
Population ... 616,347.

MEASUREMENTS began on the 1st January 1866, and the settlement was over by April 1868, having lasted two years and a quarter. It was conducted by a Settlement Officer, with a native assistant, and the results were as follow :

Page 1.

Page 170.
Pages 143, 144, 166.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,56,845	5,89,088 rising to 6,28,046 in 10 years.	32,243 rising to 71,201	5·8 rising to 12·8	1,46,686*

Statement XXI., Revenue Report of 1868-69. Punjab letter No. 1302, dated 13th September 1875.

* The Settlement Report shews the cost as Rs. 1,21,934 only.

Financial Commissioner's para. 34, G. O. para. 9, note.

These figures, however, include assignments of land revenue to an amount not stated. The khalsa revenue demand of the year after settlement (1868-69) was Rs. 5,54,251.

The first summary settlement, made in 1846, was based on the Sikh settlements, commuting grain payments into cash on the average of the previous three years. The second summary settlement, in 1849, "was unequal, too high, and having been "effected at Lahore with difficulty, could "not stand." It was summarily reduced in 1852, and the regular settlement which immediately followed was finished by 1859. The revenue demand under each of these settlements is shewn below :

Pages 106, 107, 142.
Revenue Report of 1868-69.

	Rs.
1846	6,00,814
1849	5,78,482
Regular settlement, initial demand	5,51,563

The guides used in assessment were—

Financial Commissioner's para. 24.

(1) A produce estimate at one-sixth of the gross outturn.
(2) An assumed rate on wells.
(3) An assumed rate on ploughs.
(4) Past financial experience and individual village circumstances.

(1) The produce estimate is described in these words : "From the khasras the "area under different crops was extract-"ed and added up for each village. "Kanohis or appraisers, intelligent agri-"culturists, and grain-dealers were care-"fully examined regarding each soil, the

Pages 116—126.

"crops it could produce, and the crops "most suitable to it. The totals of the "village statistics were added up for the "chak or circle, and the average produce "of the area under each crop was "calculated in Government maunds. "The average price current of each "crop during the last 30 years was then "calculated, and the value of the gross "produce was found, and one-sixth of the "result was taken as the Government "demand. This system was applied to "each assessment circle and to each village "individually; the result finds a place in "the village note-book among the esti-"mates. The average produce of the "unirrigated land in the circle was cal-"culated upon the cultivated area as unin-"fluenced by artificial irrigation from wells, "and to this the water-rate had to be "added."

(2) The rate on wells was in substitution "of the old system of assessing the irrigated "area as per measurement and record." The new system consisted in assessing well-irrigated lands as *barani** or *sailabi*,† as the case might be, and adding "a rate "per well proportionate to its value to "the agriculturist. In each assessment "circle the cost, productive power, and "expense of a well were carefully calcu-"lated, and the average net profits were "approximately arrived at. These rates "were made public, and discussion upon "the fairness of the rate, with reference "to surrounding circles, was encouraged."

* Rain-fed.

† Alluvial or inundated.

(3) The plough estimate was formed upon a calculation of gross outturn and expenses of a plough in *barani* land "in "an average circle." The profits on eight acres were found to be only Rs. 19-9-0, of which Rs. 7-13-2 (equivalent to one-ninth of gross outturn) were taken as the Government share, thus giving a *barani* revenue-rate of Re. 0-15-8.

The assessment data of the first regular settlement also received considerable attention.

Pages 139, 143. The averages on page 143, viz.,—

Tahsils.	Rs.	As.	P.
I.	1	1	7
II.	0	11	10
III	0	14	0
Whole district ...	0	15	5

include recent fallow in the cultivated area.

Page 122.

The initial average incidence of the new assessments on the cultivated acre was as follows:

Tahsils.	Rs.	As.	P.
I.	1	2	1
II.	0	13	2
III.	1	0	7
Whole district ...	1	0	1

On estimated value of gross outturn the incidence of the initial demand was 14 per cent.

Tenures are shewn as follows : Page 61.

Zamindari.	Pattidari.	Bhayachara.
72	378	980

Pedigree tables were recorded as a guide in regulating the *bâchh* or distribution of the assessments. The proportions in which the cultivated area at settlement was actually held appear to be the following : Page 62.

	Percentage.
Proprietors of shares ...	65·25
Ditto of holdings ...	10·85
Tenants	23·9

Pages 63, 65 (see *data* in para. 200, whence the calculation regarding tenants has been made).

Of the 24 per cent. held by tenants, more than 2 per cent. was liable only for the revenue share, and did not pay rent proper.

The irrigation percentage was 28, and the culturable waste percentage 40.

The assessment was regarded as too light. Had the old wet-rates been applied to well lands, instead of the dry-rates *plus* well-rates, the assessment of those lands would have been higher by Rs. 47,984. Cultivation had increased 39·6 per cent., well irrigation 18 per cent., and the value of produce and rents had also risen. It was intended to confirm the settlement for ten years only, but as it had been announced for 20 years, it runs for that term, expiring in 1888. Financial Commissioner's paras. 29, 34. G. O., para. 9, and note.

The revenue-rates used were as shewn below : Pages 131, 133.

	Maximum. Rs. As. P.	Minimum. Rs. As. P.
Separate well-rate ...	14 0 0	5 0 0
Sailabi lands / Best dry lands ...	1 14 0	0 14 0
Other dry lands ...	1 8 0	0 10 0
Fallow (one circle only)	0 6 0	0 4 0

Gain by alluvion, as also lapses and resumptions of revenue-free holdings, had raised the khalsa demand to Rs. 5,69,669 on the 31st March 1878. The present cultivated area is shewn as nearly 37 per cent. in excess of that at settlement, thus reducing the incidence per acre to Re. 0-11-9.* The irrigation percentage is nearly 30, and the culturable waste percentage is 20 only. Revenue Report. Administration Report.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

LAHORE.

Area ... 3,659 *sq. miles.*
Population ... 789,666.

Appendix II.
Paras. 344, 345, 350.

SETTLEMENT operations lasted from November 1865 to June 1869. They were conducted by a Settlement Officer with a native assistant, and with a European assistant towards the close. The results were as follows:

Para. 307. Financial Commissioner's para. 28.
Punjab letter No. 1302, dated 13th September 1875.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,45,917	6,34,437 rising to 6,80,960 in 15 years.	88,520 rising to 1,35,043	16 rising to 24·5	2,06,716*

* *Net* expenses are shewn as Rs. 72,205, and total expenses as Rs. 1,27,398 only, in the Settlement Report.

This is exclusive of the receipts from the new water-advantage rate, but inclusive of jagir, &c. For khalsa revenue only, the figures seem to have stood thus:

Revenue Report, 1869-70.

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,28,537	5,02,112	73,575	17	2,06,716

The total revenue demand (including jagir, &c.) of 1869-70 is shewn as Rs. 7,00,019.

Paras. 66—70, 266.

In Lahore, as in other districts, the summary settlement made on annexation was too heavy, cash payments being suddenly introduced on too high a scale of commutation prices. It was succeeded by Mr. Egerton's settlement (made in 1852—1858) at a reduction of 11 per cent., introducing an era of prosperity. The cultivated area increased by 18 per cent., the population by 42 per cent., wells by 17 per cent., and the number of cattle in the district nearly doubled.

Para. 306. Page III.

Para. 309.

The principle followed in making the assessments was—"that the land revenue "shall be fixed on the dry or *barani* aspect, "and on the water only when water is "procurable." After inspection and the formation of assessment circles and record of village statistics, the next step was to find out whether the circle could bear an increase, needed a decrease, or was already fairly assessed. For this purpose, besides reference to general rates of

Paras. 300—304.

assessment in neighbouring districts and circles, produce estimates were applied to the crop areas, converted into cash at the average prices of 30 years, and one-sixth of the result taken approximately as the jama of the circle. Rents being principally in kind, no other form of estimate was used. This circle jama was then apportioned among the villages by means chiefly of "an intimate personal "knowledge of each estate." In addition to these *barani* and *sailabi* assessments, a separate rate was fixed on every well, with reference to its irrigating power and the value of the crops raised; and there was also the water-advantage rate on every acre of land irrigated by canals. This latter was fixed by estimating the value of the produce of the canal-irrigated area, "and then determining "the proportion due to land and water "respectively for each circle."

Para. 305.

Para. 309.

The average initial incidence of the new assessments was Re. 0-10-8 per cultivated acre, exclusive of water-advantage rate. The highest average rate was Rs. 3-0-6 in villages immediately around Lahore city. Most of the dry uplands were assessed at 6 to 7 annas per acre.

Para. 92.
Page 83.

Paras. 81—86.

The settlement was made, as usual, with the proprietors or proprietary communities found in possession—whether zamindari, pattidari, or bhayachara, but the respective numbers of the three kinds of tenure are not shewn. Rights within the community were defined by the pedigree tables and village administration papers drawn up at settlement. Sixty-four per cent. of the cultivated area was tilled by proprietors. Government estates are numerous, but it is not said how they have been dealt with.

Paras. 123, 240, 285—289.

Paras. 240—248.

The irrigation percentage was 50 (canals 8, rivers 7, wells 35 per cent.); and the culturable waste percentage was 52.

It was calculated that Rs. 1,08,270 were lost by the new system of well assessment, instead of wet-rates on well-irrigated lands.

Financial Commissioner's para. 31.

Considering the great extension of cultivation, the rising value of land and agricultural produce, and the expected development of canal irrigation, the settlement was sanctioned for ten years only. But, as in the case of Gujrat and Gujranwala, it was discovered that the settlement officer had been authorised to announce, and did announce, that the settlement was to be made for 20 years.

Punjab letter, para. 2.

The term, therefore, was altered to 20 years expiring in 1887-88.

Revenue-rates are shewn as follows:

Famine Papers.

	Maximum.		Minimum.	
	Rs.	As.	Rs.	As.
Rate on wells ...	14	0	6	0
Sailabi ...	1	0	.....	
Dry lands ...	1	0	0	5

The water-advantage rates are 8 annas per acre for inundation canals, and Rs. 1-8-0 to 12 annas per acre for the Bari Doab canal. The income from this source has been as follows:

Irrigation Reports.

	Sutlej canals.	Bari Doab canal.	Total.
	Rs.	Rs.	Rs.
1874-75 ...	5,038	57,334	62,372
1875-76 ...	12,066	78,513	90,609
1876-77 ...	7,868	53,396	61,264
1877-78 ...	8,525	62,580	71,105

Revenue Reports.

Lapses and resumptions of revenue free lands raised the khalsa demand to Rs. 5,34,860 in 1875-76, and losses by diluvion in the next two years reduced it to Rs. 5,25,741 on 31st March 1878. According to present returns, the revenue incidence is Re. 0-10-2 per cultivated acre.* The irrigation percentage appears as 35 (16 per cent. canals), and the culturable waste percentage as 42. The cultivated area seems to have increased 2 per cent.

Administration Report, 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue, and water-advantage rate.

MONTGOMERY.

Area ... 5,573 *sq. miles.*
Population ... 359,437.

THE Montgomery district is one of those where the rainfall is so scanty that cultivation usually depends altogether upon river inundation (*sailab*), canals, or wells. Settlement operations began in February 1868, and ended in September 1873, having lasted five years and eight months. They were conducted by a Settlement Officer with a native assistant, and the result was—

Pages 217—219.

Pages 195, 219. Punjab letter No. 1302, dated 13th September 1875.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,23,741	3,18,789 rising in ten years to	—4,952	1·5	2,80,953†
.....	3,32,962	+9,221	2·8	.....

† The Settlement Report shews the cost as Rs. 2,23,990.

These figures include jagir to the amount of about Rs. 10,000, but exclude the old *âbiâna* and the new water-rates. The average *âbiâna* for the last five years was about Rs. 48,000 per annum, and the average canal income since settlement has been about Rs. 71,000 per annum. This would give an initial increase, reckoning *âbiâna* and water-rates, of Rs. 18,000,* or about 5 per cent. According to the Irrigation Reports, the canal income, called 'fluctuating land-'revenue,' since settlement has been the following :

* Rs. 3,23,000+48,000=Rs. 3,71,000
Rs. 3,18,000+71,000=Rs. 3,89,000
Difference Rs. 18,000

		Rs.
1874-75	...	99,724
1875-76	...	1,29,197
1876-77	...	66,477
1877-78	...	85,894
1878-79	...	1,51,559

Revenue Reports.

The khalsa figures appear to be as follows :

Old assessment (1870-71).	New assessment (1874-75).	Difference.
Rs.	Rs.	Rs.
3,09,701	3,08,744	—957

But this includes gains by alluvion and other causes. The khalsa loss by settlement was really Rs. 4,408.

Page 142, *et seq.*

The first summary settlement was made on the basis of the papers of the Sikh kârdârs. It was for Rs. 3,70,819. The second summary settlement, in 1852, was for Rs. 3,23,100. In 1856 the first regular settlement for ten years was made at Rs. 3,40,984, the Government share being estimated at $\frac{13}{20}$ths to $\frac{2}{3}\frac{9}{5}$ths of the gross produce, and revenue-rates being got by distributing the jamas over the villages of

the circle in proportion to the fertility of the soil classes, which were distinguished according to irrigation from wells, canals, floods, or rain. This sum includes Rs. 25,110 on account of *ábiána*. This ten-

Pages 194, 195.

years settlement continued till 1870-71 and 1873-74 in the different tahsils, and the demand under it varied considerably, owing chiefly to failure of *sailab*, transfers between *ábiána* and land revenue proper, and extension of canals, with grants of canal-watered land, to which cultivators were attracted from the older villages.

Pages 158, 179, 148, 149, 151. G. O., para. 2.

The distinguishing feature of the settlement was the fluctuating system of assessment adopted in the canal-irrigated tracts of two tahsils. These tracts were settled in the following manner: "The whole cul-
"turable revenue-paying area was assess-
"ed at one anna per acre. The cultivated
Pages 183—4, 179.
"area was not so assessed. An acreage rate
"was then put on the rain cultivation, and
"in addition each well was assessed at a
"certain rate. Then the *bángar* jama, the
"*barani* jama, and the *well* jama made up
"the total fixed revenue of the village.
"..... The only weak point is the *barani*
"rate. The rain cultivation fluctuates im-
"mensely with the character of the
"season, and so an estimate has to be made
"of what may be considered a fair average
"*barani* cultivated area, and that area
"only is assessed. Sailabi cultivation has
"of course to be assessed by an average
"rate; but a satisfactory assessment for a
"fixed term of years of sailabi land on
G. O., para. 2.
"the Sutlej is quite impossible." Besides this fixed jama, villages taking canal water were to pay for it separately. This latter, or "fluctuating" portion of the canal land assessments, was sanctioned for five years only.

The lands not under canals in these two tahsils were assessed at rates slightly higher

Pages 191, 187, 184.

than certain circle rates proposed by the Settlement Commissioner in 1871, with the help of the usual statistics, "the opinions of
"the tahsildar or superintendent, and extra
"assistant settlement officer, and occasion-
"ally of some respectable agriculturist, con-
"cerning the condition of the village and
"the revenue which might fairly be im-
"posed;" also of a statement showing the class of every well; and, finally, of local knowledge obtained by inspecting 97 per cent. of the villages.

Revenue-rates in the remaining two tahsils seem to have been arrived at more or less by rule of thumb. In one tahsil the general jama was made out on the

calculation that 10 and 20 per cent. of relief "would be fair," and the settlement officer then "proceeded to assess "the circles in detail." In another it was assumed that in one part "substantial relief would have to be given;" while other circles "would continue to "pay their present jamas, or an increase "could be taken from them, but this in- "crease would not counterbalance the re- "ductions." On this general view the settlement officer "proceeded to work out "a jama for each of the assessment circles, "and then to assess its villages in detail."

Page 164.

Pages 171, 172.

The average incidence of the revenue assessed by these various methods is shewn below:

	Tahsil.	Per cultivated acre. Rs. As. P.
Not canal-watered	I.	1 1 11
	II.	1 4 11
Canal-watered in parts	III.	1 0 4
	IV.	0 9 10
Whole district		0 14 0

Pages 147, 195.

The assessments were intended to cover one-sixth of the produce, with a liberal allowance for vicissitudes of seasons. As actually made, however, they fell at not quite 10 per cent. on the estimated value of gross outturn in the year of settlement. Besides the above, the average water-rate per canal-irrigated acre, according to the returns of 1873-74 and 1874-75, was Rs. 1-1-11, and the average income from that source in those two years was Rs. 75,923.

Page xvii.

Tenures at the conclusion of settlement were as follows:

Pages 212, 213, 185, 191.

		Rs.
Zamindari		1,481
Pattidari	Perfect	91
	Imperfect	279
Bhayachara		317
		2,168

There was one taluqdar of 41 mahals. Settlement was made with the sub-proprietors. The taluqdar's malikana was fixed by local custom, but the amount is not stated.

Page 202.

The proportion of the cultivated area tilled by proprietors is given for two tahsils; it is 19 and 41 per cent. respectively. The culturable waste was 68 per cent. of the assessable area. The irrigation percentage was 70, besides 23 per cent. *sailabi.*

Pages xviii., xxvi., xxvii.

Revenue Report, 1877-78.

Pages 187, 192.

On unirrigated lands the rates were considered light; on canal and well lands the new arrangement as to water-rate was expected to increase the revenue demand by 50 or 60 per cent. The settlement is for 20 years, expiring in 1894.

The revenue-rates used in the two canal-watered tahsils were—

		Maximum.	Minimum.
		Rs. As. P.	Rs. As. P.
For lands not canal-watered.	On wells ...	... 12 0 0	10 0 0
	On cultivation	... 0 12 9	0 6 0
	On recent fallow	... 0 4 0	.....

A single-wheeled well of moderate depth (25 feet) irrigates 25 acres per annum.

For canal-watered lands.	On two-wheeled wells...	50 0 0	40 0 0
	On one-wheeled wells...	30 0 0	20 0 0
	On rain cultivation ...	0 8 0	.....
	On culturable waste ...	0 1 0	.....

Famine Papers.

The water-rates vary from 3 rupees to 12 annas, according to the crop.

Revenue Report.

The district has lost somewhat by diluvion, and the khalsa demand of 31st March 1878 is shown as Rs. 3,02,996 only, while the total demand appears as Rs. 3,18,146. At present the cultivated area is shown as 2 per cent. less than at settlement, and the irrigation percentage (including *sailabi*) as 97·3 (22 per cent. canals). The revenue incidence on cultivation is Re. 0-14-2.*

Administration Report, 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue, and water-advantage rate.

HAZARA.

Area ... 2,835 *sq. miles.*
Population ... 367,218.

SETTLEMENT operations began in May 1868 and lasted 6½ years. Measurements were completed by September 1870; assessments were reported in November 1871 and announced in June 1872; and the record of rights occupied the rest of the time. The work was done by a Settlement Officer, with a native assistant. The result was— Settlement Officer's letter, paras. 12, 16. Page 240.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,61,958	2,21,155	59,197	36·6	3,71,885*

* Besides Rs. 1,44,191 recovered in fees.

There are also assignments of revenue (less nazrana included in recoverable revenue), amounting to Rs. 87,238, against Rs. 68,352 before.

The assessments under the last Sikh leases were Rs. 2,81,853. On the introduction of British rule, a summary settlement for Rs. 2,35,933 was made in 1847, at 33 per cent. of total produce in good tracts, and less in the hills. The next summary settlement of 1852, for Rs. 2,32,834, lasted till 1871-72, when the revenue demand was Rs. 2,29,604. In 1862-63 revised assessments amounting to Rs. 2,42,025 were proposed, but never received sanction. These assessments, made at one-sixth of total produce, were the first that were based on measurements of any kind. Page 170. Page 166. Page 186.

The mode of assessment in the present settlement is described thus :—"The Gov-"ernment's share being assumed to be "one-sixth of the produce, the amount "of that share was estimated for each "tract and village. The estimate so "arrived at was then checked, in the "first place, by soil-rates reckoned inde-"pendently, and based on a fair judgment "of the relative value of each soil, and, "in the second place, by plough-rates "deduced from the produce statistics. "By means of the soil-rates, villages "possessing land better or worse than the "average were charged proportionately, "and by means of the plough-rates like "consideration was given to the strength "or weakness of a village in cultivators "and plough cattle." The produce estimates were based on the papers prepared for the unsanctioned assessments of 1862-63. They were for rabi and Pages 201, 205, 208, 209, and 215.

kharif crops upon wet and dry lands; and commutation prices were the averages of 1844-1869, inclusive. The soil-rates were not based on any direct deduction from rents, which afforded no guide except in the case of garden lands. "Their fairness is a matter of judg- "ment. At the same time, in framing "them, certain means of comparison were "available," *i. e.*, Sikh rates on garden land, and rates used in the settlement of 1852, and for the unsanctioned assessments of 1862-63.

The plough jama was got by applying the produce estimates to the acreage under a plough, as stated by the zamindars.

Page 210. The result was a revenue incidence as follows :

Tahsils.	Rs.	As.	P.
I.	1	0	10
II.	0	11	4
III.	0	8	5
District average ...	0	12	2

Page 234. This includes the assigned revenue. The incidence of revenue on rental is not given, most of the rents (76 per cent.) being in kind; but the Government share under the new assessments was calculated to be one-tenth of the total produce of the cultivated area, *i. e.*, a mean between 13·9 per cent., its incidence on produce as per average prices from 1844 to 1869, and 6·5 per cent., its incidence on produce at the average prices of 1868-71.

Page 216.

Pages 205, 234, 235.

Appendix 9. Tenures are thus shewn :

	No. of estates.
Zamindari landlord ...	130
Do. communal ...	118
Pattidari	352
Bhayachara	261
Mixed pattidari and bhayachara	25

Appendix 9. Proprietary right had been more or less in a state of uncertainty ever since annexation. The proprietary clans were extensively expelled by the Sikhs, and had not recovered their position under our temporary settlements, though still claiming their old rights (*wirâsat*). In framing the record of rights, proprietary possession was in the first instance declared by the settlement officer, and suits to decide proprietary right followed to the number of 17,048. The state of things existing at settlement, and the final results, are described thus :—"In "the majority of villages the summary

Pages 114—116, 118, 119, LXXXII. (Appendix 9)

"settlement leases were enjoyed by the pro-
"prietors in the ratio of their proprietary
"possession; but there were a number of
"villages.....in some of which it could
"be said with certainty that the lessees
"were mere farmers, and in others of which
"it was difficult to say whether the pro-
"prietary right was in the hands of the
"lessee or of those who held under him.
".....Our object has been to support the
"status of the summary settlement as far as
"possible, and when a claim was admitted,
"to decree it in such a manner as would
"cause as little disturbance as possible to
"the existing status. The cases are few
"in which a member of the old *Wâris*
"class has been denied all footing in his
"heritage; on the other hand, short of
"refusing such men a moderate recovery
"of their old status, we have maintained
"in a privileged position as owners or as
"hereditary tenants those who had ob-
"tained possession under Sikh rule, and
"had continued to hold the land under our
"rule." The resultant percentages of the different classes of proprietors were— Appendix 9.

Old Wâris	...	59
From before Sikh rule	...	20
From Sikh rule ...	...	18
From British rule	...	3
		100

Plot-holders were recorded to the number of 1,925, averaging 6½ acres a piece. Page 121, Appendix 9.

No less than 47 per cent. of the cultivated area at settlement was tilled by proprietors.

Nearly all the irrigable area is under irrigation; it is 9·7 per cent. of the cultivated area, and is watered by private canals from small rivers. There are no State canals in the district. The assessment due to irrigation (difference between wet and dry-rates on wet land) is shewn as Rs. 65,992. Page 217.

Page 243.
Page clii.
Page 217.

State forests were reserved to the extent of 234 square miles. The income in 1873-74 was Rs. 6,950. Pages 135, 136.

The assessments were considered moderate. Cultivation had increased 30 per cent. between 1852 and 1871. The settlement is for 30 years, expiring on the 30th June 1902. Review, paras. 3, 4.

Captain Wace's paras. 12, 17.
G. O., para. 4.

Appendix 13, Pages 194—197.

The soil classes were peculiar. Revenue-rates on them were as follows:

		Maximum. Rs. A. P.	Minimum. Rs. A. P.
Wet.	Garden land ...	8 0 0	3 0 0
	Outlying do. ...	4 0 0	1 0 0
	Rice do. ...	2 8 0	1 4 0
Dry.	Alluvial gravel ...	1 8 0	0 12 0
	Dry manured land ...	4 0 0	1 8 0
	Deep moist loam ...	2 0 0	0 8 0
	Clay with sand ...	1 0 0	0 4 0
	Clay with stones ...	0 8 0	0 4 0
	Terrace land ...	0 3 0	0 2 0

Administration Report, 1878-79. Revenue Report, 1877-78.

According to present returns, the cultivated area seems to have fallen off by $3\frac{1}{3}$ per cent. since settlement, but the irrigated area remains almost exactly the same. The revenue incidence on cultivation is shewn as Re. 0-14-10,* and the khalsa revenue demand of 31st March 1878 as Rs. 2,21,545.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

DERA GHAZI KHAN.

Area ... 4,740 *sq. miles.*
Population ... 308,840.

SETTLEMENT operations began in April 1869. Measurements, delayed by financial reductions, were finished by March 1872; attestation was completed in June 1873; the assessments were given out by July 1874; and proceedings were finally wound up in September 1874; having lasted five and a half years. They were conducted by a Settlement Officer, with an Assistant Settlement Officer (European or Native) from January 1870 to April 1874. Their result was— Paras. 249, 264, 282, 291, 294. Paras. 420, 421

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,14,015	3,49,843	35,828	11·4	3,25,426*
	rising to 3,74,410	60,395	19·23	

Para. 398. Punjab letter No. 1302, dated 13th September 1875.

* Shewn as Rs. 2,79,780 only in the Settlement Report.

Besides the above payable jama, there were Rs. 70,511 assignable to tribal leaders and in service grants or jagirs.

Government waste lands measuring 217,317 acres were demarcated. Fees are taken on cattle grazing upon these lands. The Forest Department has 34,129 acres of this area. Paras. 300, 313. Commissioner's para. 13.

The district came under British rule in 1849. The first summary settlement in 1849-50 was based on the produce estimates of the three years next preceding, converted into cash at high prices. The demand under this and subsequent settlements was as follows: Paras. 342—348.

	Rs.
1st summary settlement, 1849-50 ...	4,38,968
Do. do. by 1853-54 ...	4,55,504
(Rs. 96,685 remitted.)	
2nd summary settlement, 1854 ...	3,48,815
3rd do. do, 1859-60 ...	3,29,485
Demand of 1872-73 ...	3,27,702
(Rs. 13,887 lost by diluvion.)	

Para. 354.

Much harm resulted from the excessive demand of the first summary settlement. The causes of over-assessment were the same as in other districts of the Punjab.

Assessments were evolved from the 'plough,' the 'produce,' and the 'revenue-rate' estimates. The 'produce' estimate, Paras. 374, 375, 383, 384, 387, 328—338.

which was the basis of all, was got by determining, by experiment and the consensus of the assembled zamindars of the district, the "average produce per acre for each "crop and for each of the main sub-divi- "sions of soil," converting this to money at the average prices current of 20 years previous, slightly reduced in some cases, and taking one-eighth (occasionally one-tenth or one-twelfth) of the result as the Government share. The plough estimate was calculated on the number of ploughs, the average area under each, and the Government share of the average produce of that area. The 'revenue-'rates' estimate was "based on a calcula- "tion of the produce of an area sufficient "to contain all the crops grown in each "distinctive part of a circle in their pro- "per proportions." Unit areas of eight or ten acres were taken, their outturn calculated, the result divided by the number of acres, and the revenue-rate was that proportion of the quotient which had been adopted as the Government share of the produce of the circle.

Para. 392.

Cash rents were scarcely known in the district, and therefore formed no guide in assessing.

Paras. 374, 396.

After all, the assessing officer relied most "on the estimate of the value of "the lands of a village" formed by himself, or by his experienced subordinates. The produce estimate came out 70 per cent., and the plough estimate 23 per cent., above the jama actually assessed.

Statement VI.
Statement VI., pages 144, 145. Total cultivation, acres 662,269. Total assessments, Rs. 4,34,921 (including assignments, progressive assessments, &c.)

The average incidence of the revenue per cultivated acre, by tahsils, was as follows:

Tahsil.			Rs.	As.	P.
I.	...	...	0	6	4
II.	...	...	0	14	8
III.	...	...	0	8	0
IV.	...	...	0	11	4

and for the whole district 10 annas 6 pie, or a fraction less than 6 per cent., on the estimated value of gross produce.

Statement IV.

Paras. 215, 216, 219.

The proprietary class with whom the settlement was made are described as follows:—"There are no village commu- "nities in the district. Every village is "made up of separate and independent "landowners, bound together by no com- "mon interest in the land, but only asso- "ciated together for revenue purposes, and "in former times for mutual protection."

The origin of proprietary right was not mere occupation of a piece of land, but implied also the expenditure of capital

and labour on it. In a few villages the custom of periodical re-distribution of lands still survived. There were 602 bhayachara estates at settlement, to 73 zamindari. The percentage of the cultivated area tilled by tenants was only 29.

Statement XII.

Statement V.

The revenue-rates adopted were as follows :

Paras. 373 *(a)*, 387, 401.

Lands watered by	Maximum.			Minimum.		
	Rs.	As.	P.	Rs.	As.	P.
Wells and canals (one crop)...	1	14	5	0	14	9
Do. do. (two crops)...	5	0	0	3	4	0
Wells	1	7	11	0	11	0
Floods	0	15	2	0	5	0
Canals	1	6	2	0	7	7
Indus floods	0	15	2	0	5	0
Hill streams	0	6	2	0	1	0

Lands not irrigated by canals at settlement, and subsequently coming under canal irrigation, pay additional revenue-rates varying from eight annas to one rupee according to natural advantages.

Famine Papers.

The settlement was regarded as a very light one. The irrigated area had increased by 81 per cent., and covered 40·24 per cent. of the cultivated area, which itself had increased by 103 per cent., while, as compared with the area now cultivated, there still remains a culturable waste in the proportion 179 to 100. As the term of the settlement is 20 years, it will expire on the 30th June 1894.

Settlement Commissioner's para. 15.

Paras. 408, 409.

The khalsa revenue demand has been subjected to considerable modifications by alluvion and diluvion since settlement. It rose to Rs. 3,55,938 in 1874-75, and has since fallen to Rs. 3,49,010 (31st March 1878). At present the cultivated area is shewn as 60 per cent. in excess of that recorded at settlement, and the revenue incidence per cultivated acre as Re. 0-5-10 only.* The irrigation percentage is 43 (27 per cent. canals); the culturable waste percentage over 50.

Revenue Reports.

Administration Report, 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

PESHAWUR.

Area	...	2,497 *sq. miles.*
Population	...	523,152.

Pages xxi., 147—149.

SETTLEMENT operations lasted from September 1869 to March 1875, or five and a half years. Measurements were completed by December 1870, inspection by June 1871, assessments by June 1873, and the record of rights occupied the rest of the time. The work was conducted by a Settlement Officer, with two native assistants, and with a European assistant for 22 months. The result was as follows:

Page 306.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
6,35,420	6,80,816	45,396	7·15	4,73,643

The assessments were also concerned with the subjoined items,* not part of the recoverable revenue:

* Para. 21 of the G. O. of 22nd January 1877 says that the total amount of assignments, as ascertained subsequently to the settlement report, is Rs. 1,87,829.

	Jagir.	Inam.	Remissions.
Old assessment ...	75,791	13,836	...
New ditto ...	82,267	6,799	39,581

Thus the total enhancement was 11·7 per cent. The jagirs and assignments are mostly on the frontier.

The district used to be farmed out by the Sikhs, the farmers taking half the produce, and paying the revenue demand. In 1849 the first summary settlement was made; the next, for two years, was in 1850; the next, for three years, in 1852. The five-years summary settlement which followed lasted in effect for 18 years, *i. e.*, until the promulgation of the present assessments. The revenue demand under past settlements is shewn as follows:

Page 158.

Form A., columns 49—57.

	Rs.
Sikh demand for 1846 ...	10,04,771
Summary settlement, 1849 ...	9,13,077
Ditto, 1850 ...	8,52,992
Ditto, 1852 ...	7,99,084
Ditto, 1855 ...	7,80,183
Revenue, jagirs, and inams, 1872 ...	7,25,047

Para. 528.

The basis of the new assessments was to be a share of the gross produce, amounting approximately to one-sixth. Produce estimates were obtained by experiments (which were not of much use), and by enquiries from jagirdars, farmers, and selected agriculturists, and corrected by the opinion of the native assistant settlement officer. Crops were divided into four

Paras. 517—519.

Form D.
Para. 505.

classes according to value, and soils were distinguished according as they were watered by wells, canals, floods, or rain. Commutation prices were fixed on the averages of 20 years. Applying the prescribed proportion for the Government share, the result was a revenue increase of 37 per cent. Correcting this by new circle produce estimates of one-sixth to one-twelfth on wet, and one-twelfth to one-sixteenth on dry lands, the increase fell to 28 per cent. As a check upon this result again, revenue-rates were framed for the different classes of soil (adding new classes for fallow and double-crop canal lands). How these were got is not explained; the produce estimates are said to have been their basis: at any rate, they reduced the estimated increase of assessment from 28 to 17 per cent.; and the tahsildars' estimates were lower still. Plough estimates were also worked out, and are said to have been useful. The result of all these comparisons was to reduce the enhancement by successive steps from 37 to 11·7 per cent., leaving the revenue incidence on the cultivated acre as follows:

Para. 508.

Paras. 530—533.

Para. 534.

Para. 552.

Paras. 255, 256.

Para. 553.

Form A., columns 20, 74.

Tahsil.	Rs.	As.	P.
Peshawur	3	1	0
Naushahra	0	13	6
Doaba Daudzai... ...	3	2	7
Hashtnagar	0	15	10
Yusufzai	0	5	1
Utman Bolak	0	10	2

Form A., column 74.

and for the district, Rs. 1-1-7. It was 11·7 per cent. on estimated value of gross outturn. These figures relate to the whole cultivated area and revenue, including jagir, inam, and remissions. The cultivated khalsa area is not separately shewn. The assessments were lightest in Naushahra, where "very large areas are altogether de-"pendent on rain;" in Hashtnagar, where "by far the greatest portion of the land "is unirrigated maira" (upland); and in the frontier tahsils.

Para. 525.

Settlement was mostly made with cultivating proprietors. The percentage of the cultivated area actually tilled by proprietors varied a good deal, as below:

Statement B.

Tahsil.	Percentage.
(1) Peshawur	58
(2) Naushahra	69
(3) Doaba Daudzai	29
(4) Hashtnagar	49
(5) Yusufzai	51
(6) Utman Bolak	68

Page 158.

The small percentage in (3) and (4) is explained by the injury suffered by the proprietary system during the rule of the Barakzai Sardars, when, "owing to "the numerous interests, all anxious to "squeeze as much as they could out of "the land, ... proprietors looked simply "to keeping their inams," leaving the tenantry to farmers, who were mostly strangers. In each of the first four tahsils, tenants were found who by continued adverse possession had become proprietors; and in (3) tenants known as khewatis, who paid on the same scale as proprietors, were admitted to settlement. There were a few cases of superior proprietors.

Page 167.

Page 197.

Pages 194, 197.
Form A., columns 14—20, 12.

The settlement irrigated area was 20·6 per cent. of cultivation, besides 2½ per cent. sailaba. The culturable waste percentage was 29.

Pages 235, 244.
Page xxix.

The settlement is for 20 years from the kharif of 1873-74.

Pages 235—244.

The revenue-rates (which were about 4 per cent. too high) are shewn as follows:

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Land watered by	Garden land	... 12 0 0	3 12 0
	Wells ...	... 10 0 0	0 8 0
	Canals (one crop)	... 3 4 0	2 12 0
	Do. (two crops)	... 6 8 0	1 0 0
	Floods	... 2 0 0	0 12 0
	Rains	... 0 12 0	0 4 0

A light rate was also put on fallow and waste.

Revenue Reports.

The new assessments were not fully brought on the revenue-roll till 1875-76, when the khalsa demand appears as Rs. 6,79,543. Subsequent grants of land revenue reduced it to Rs. 6,71,141 on the 31st March 1878. In the few years that have elapsed since settlement, cultivation appears to have increased considerably, reducing the revenue incidence to Re. 0-15-11.* The irrigation percentage (including sailaba) is 40, and the culturable waste percentage 25 only.

Administration Report, 1878-79.

* This is the incidence of the gross assessment, including alienated and miscellaneous revenue.

BANNU.

Area ... 3,931 *sq. miles.**
Population ... 296,529.

SETTLEMENT operations began in September 1872. Measurements were completed by April 1874, and the settlement was finished in about six years and four months.† It was conducted by a Settlement Officer, with a native assistant, and the results were as follows:

Para. 173.
Appendix I.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,33,728	3,58,278	24,550§	7	4,79,444‡

† The Administration Report of 1878-79 says 6¼ years.
Page 198.
Para. 227.

‡ Exclusive of expenditure from settlement fees, Rs. 36,479.
§ So also in Administration Report, 1878-79.
Paras. 193, 210.

To this must be added the fluctuating assessment on the Indus sailaba lands. It was Rs. 75,916 in the first year of the new settlement, against Rs. 89,293 the year before. The total revenue demand for that year, therefore, was Rs. 4,34,194. From this, however, must be deducted assignments to the amount of Rs. 40,036, so that the khalsa revenue of settlement was Rs. 3,94,158 only.

The first summary settlements of the tracts composing the present district of Bannu were made independently in 1852-53 and 1853-54. They amounted to Rs. 3,78,076.‖ The second summary settlement of three of the four tracts took place in 1857-58 and 1858-59 at Rs. 2,74,645; the fourth was settled at Rs. 1,37,148 in 1860-61 and 1863-64.

Paras. 163, 166, 167, 170, 172.

		Rs.
‖ 1.	Bannu ...	1,04,163
2.	Marwat ...	1,11,357
3.	Isakhel ...	35,915
4.	Mianwali ...	1,26,641

Produce estimates were framed in the first instance. Wheat, gram, and bajra were taken as the staple crops. For each harvest from 1873 to 1875 experiments were made by cutting and weighing the produce of one-sixteenth part of an acre. The whole area thus experimented on in any one year was only one sixteen-thousandth part of the cultivated area of the district, and the estimates arrived at "were, after all, mere guesses." Commutation prices were got from the published tahsil rates of the preceding 20 years. Expenses were then deducted, the tenant's share being calculated by treating all land as if held by tenants-at-will, paying at the average rent-rate of the circle. Half the remainder was the assumed revenue demand from the circle.

Paras. 182, 184.

Para. 187.

Para. 188.

* Here the Settlement Report has been followed, as probably giving latest information.

Revenue-rates were then framed, adapted to village assessment estimates. "Where villages were numerous, they "were carefully graded in their supposed "order of productiveness. By the above "means a rough estimate was obtained "of the limit to which enhancement was "practicable within the prescribed maxi-"mum standard. Soil or revenue-rates Para. 191. "were then devised with reference to the "assumed revenue-bearing capacity of "the different soils and the rough esti-"mate just mentioned." The rough rates were then applied to all the villages in the circle, and the assessing officer and his assistants recorded their opinions as to what would be a fair assessment in Para. 191. every case. Finally, the rates were modified, when necessary, so as to bring their product into closer accord with that of the village assessment estimates. "In mak-"ing these latter, every circumstance "bearing on the revenue-paying ability of Para. 192. "each tract, clan, and even community, "was taken into account."

Appendix II. The revenue incidence on cultivation was as follows:

Tahsils.		Rs.	As.	P.
I.	... ...	1	0	9
II.	... ...	0	7	10
III.	... ...	0	14	5
IV.	... ...	0	14	1
Whole district	...	0	12	2

Para. 192. On estimated net assets the incidence was only 37 per cent.

Para. 145. Tenures in the different tahsils are described thus:

(1) *Bannu*—

(*a*) *Bannu Proper.*—The measure of right of each proprietor is his holding. There is hardly any common land. Almost all tenants are tenants-at-will. The proprietors are mostly self-cultivating, and the area of each holding is small, generally under two acres. There are no cash rents.

(*b*) *Waziri country.*—The Wazirs are mostly self-cultivating. Rent is generally a share of the produce, but sometimes it is the revenue, and a small grain-rate in addition.

(2) *Marwat.*—Here, too, the great mass of the peasantry are self-cultivating proprietors, with an average of six cultivated acres each. Rents are in kind.

(3) *Isakhel.*—Here 40½ per cent. of the cultivation is done by tenants, paying either wholly or partly in kind.

(4) *Mianwali.*—The percentage of proprietary cultivation is 69. Rent is wholly or partly in kind.

The settlement irrigation percentage was 16. Appendix II.

Revenue-rates are not shewn in the report, but in a statement drawn up by the Settlement Officer in January 1879 they are said to be very numerous, and vary from Rs. 10 and Rs. 2, the maxima for wet and dry lands, to 8 annas on the lowest class of wet, and one anna per acre on the lowest class of dry lands. Famine Papers.

The settlement report has not yet been reviewed.

The present (1878-79) irrigation percentage is shewn as 27 (6 per cent. canals), and the culturable waste percentage as 55. Administration Report.

The existing settlement should expire in 1908.

DERA ISMAIL KHAN.

Area ... 7,096 *sq. miles.*
Population ... 394,864.

Paras. 738, 741, 788—790.

SETTLEMENT operations began at the end of March 1872, and lasted till the end of January 1879, or 6½ years. They were conducted by a Settlement Officer, with two English assistants for two years, and with a native assistant. The results were—

Paras. 603, 785.

Old assessment (average of five years).	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,74,045	5,55,849	81,804*	22·3	4,68,756

* The Administration Report of 1878-79 adds that the new jagir allowances and compensation to jagirdars will swallow up the whole of the gain by revision of settlement.

To this must be added Rs. 5,946 new assessment temporarily postponed.

The above figures, however, include grazing dues and income from grass preserves. The new land revenue proper is—

Fixed.	Fluctuating.
Rs.	Rs.
2,52,107	2,87,639

Para. 8.

The greater part of the fluctuating assessment is on sailaba lands and in the Dâman or trans-Indus country.

Deducting jagirs and other assignments, to the amount of Rs. 1,91,293, the khalsa revenue is shown as Rs. 3,52,565, rising to Rs. 3,58,366. The settlement left the khalsa revenue much as it had been before.

Para. 622.

Para. 603.

Previous summary settlements were made at various dates in the various tracts composing the district as at present constituted. The result of the settlements made between 1852 and 1854 was a revenue demand of Rs. 4,74,371, and of those made from 1857 to 1862, a revenue demand of Rs. 4,43,319. This includes grazing dues, &c.

Para. 482.

Revenue-rates were got by distributing produce jamas over the cultivated area of the circle according to soil classes. The produce jamas were got by taking half the batai rent-rate of the circle as the Government share, converted into cash at prices calculated from the patwaris' papers and the *kham tahsil* returns of a series of years, the ordinary tahsil prices-current being too high. The standard crops were wheat, gram, mustard, barley, peas, bajra, jowar, and cotton. Estimates of gross outturn were arrived at by experiments on

Para. 405.

Para. 424.

plots of small size, the produce of which was cut and weighed on the spot. For entire mauzahs or circles recourse was had to the patwaris' returns, checked by the jagirdar's accounts in the case of jagir villages. Government kham tahsil returns were similarly made use of, the practice in such villages for years past having been to measure off and weigh the Government share, then return the grain to the cultivator, realising the value from him at prices fixed by the district officer for each harvest. Area statistics were obtainable for only the year of measurement and the following year. "By distributing the gross "produce according to jagir and kham "tahsil returns for these years over the area "under each crop in the different villages, "an average rate of yield was obtained, "which has been very useful in checking "the conclusions that might be drawn from "the result of particular experiments, and "from a superficial inspection of the "crops." The rates of yield given by these gross produce returns for large areas were, as a rule, very low.

Para. 405.

Para. 424.

This was the general system of assessment. But in parts of the Dâman, where cultivation is dependent upon irrigation from hill torrents, and fluctuations of outturn are excessive, it was determined to assess a fixed revenue at one-fourth the normal rates only, and to take in addition a fluctuating revenue, to be realised by differential crop-rates on the actual cultivated area for each harvest.

Paras. 420, 444, 446.

The alluvial tract along the Indus was also brought under a system of fluctuating assessments. The yearly cultivation of each village, as measured up by the patwaris, is assessed at a uniform rate fixed at settlement. Fallow is not assessed; new-reclaimed land pays a half-rate for the first two years. In addition to this all-round rate, well lands pay an abiana equal to the difference between the assumed sailaba and chahi rate of the circle. This total abiana jama is distributed by the people over all the wells and Persian wheels of the village, remissions being made only when a well falls in completely, or a Persian wheel is entirely thrown out of use. The sailaba jama thus varies with the extent of cultivation, but the abiana jama is a fixed sum, unless a remission is necessitated by actual loss of wells or Persian wheels. The profits of new wells, on the other hand, go to the zamindars, and the Government has no share in them during the term of settlement.

Paras. 491, 492.

Page IX.

The incidence of the entire revenue demand, as thus assessed, upon cultivation and three years' fallow, was—

Tahsil.	Rs.	As.	P.
I.	0	6	9
II.	0	8	4
III.	0	5	8
IV.	0	12	9
V.	0	12	2
Whole district ...	0	7	5

The average in the Dâman was 5 annas 4 pie on cultivation and 10 years fallow; and in the Indus riverain tract, 13 annas 2 pie on cultivation and 3 years fallow.

Pages. VIII., XI., XXV.

On the gross produce estimate according to the crop statement the revenue demand fell at 8·1 per cent. only. On this estimate, reduced so as to represent the assumed average produce of a series of years, the proportion was 11·8 per cent.

Paras. 168, 177, 188.

A double system of tenure prevails in the cis-Indus tracts, arising from the circumstances under which the country was first settled. The new occupants invited tenants by offering them heritable and transferable rights in their lands, on payment of a small entrance fee, called juri, and of an annual malikana. Those too poor to pay juri, paid malikana only, and got an hereditary, but not a transferable right. At present the superior proprietors receive the malikana according to their shares; they are jointly responsible with the under-proprietors for the revenue demand on lands held by the latter, over which it is distributed on the bhayachara system, *i. e.*, in proportion to holdings; and they are the owners of waste land, subject, however, to certain rights enjoyed in it by the inferior proprietors and tenants. The malikana rate is only $1\frac{3}{4}$ per cent. on the revenue, but is eked out by inams.

Para. 198.

Para. 204.

The trans-Indus tract is divided as regards tenures into three portions—

Para. 220.

(1) *Makkalwad.*—The assessing officer sums up his account of tenures in these words—"Practically, the varieties of "tenure in the different villages are end-"less. Rights of muqaddami, malikana, "and adna milkiyyat overlap one another "in the most curious ways. Each of these "rights can be held zamindari, or patti-"dari, or bhayachara, while parts of a "village are held on one tenure and parts "on another. The milkiyyat ala is of two "sorts—in one case the ala maliks are "dakhilkars, *i. e.*, they manage the waste

" lands and hold the lumberdari; in the " other they are mere taluqdars, getting " nothing but a fixed rate of malikana. " In the same way the adna maliks are " sometimes full proprietors, except as " regards the payment of malikana, " holding the lumberdari and managing " the waste, to the exclusion of the ala " maliks. Elsewhere they merely enjoy an " inferior proprietary right in their actual " holdings, occupying the position of privi- " leged tenants. The question of the " *dakhilkari* is a very important one, and " had to be carefully settled for each " village," a special record being prepared for the purpose.

Malikana here was much higher, running from 6¼ to 25 per cent. Muqaddami is an additional demand similar to malikana. Paras. 212, 214.

(2) *Tonk tahsil.*—Here the double tenure prevails in one portion, the estates being large, sharers few, and malikana heavy, so that the superior proprietary right is far more valuable here than in the district generally. In the other three tracts there is the single bhayachara tenure of cultivating proprietors. Para. 237. Paras. 254, 260, 268.

(3) *The rest of the district* is held by tribes, dividing the land between them according to tribal custom.

Over the whole district 35 per cent. of the cultivated area is held by superior proprietors, 31 per cent. by inferior proprietors, and 14 per cent. by occupancy tenants, the rest being held by tenants-at-will. Page XLVI.

The irrigation percentages are— Page III.

	Per cent. of cultivated area.
Watered by wells ...	10
By perennial springs ...	9
By floods	21

The culturable waste is thrice the area of the cultivated and fallow land together.

The revenue-rates adopted were—

(1) *In the Dâman*— Page 225.

	Maximum.			Minimum.		
	Rs.	As.	P.	Rs.	As.	P.
Watered by springs ...	1	0	0	0	4	0
By natural drainage ...	0	9	0	0	1	0
By rain only ...	0	8	0	0	0	8

There were also rates on fallow of three years, varying from 12 annas to 6 pie, and on fallow of three to ten years, from six annas to three pie.

Page 231.

In the parts of the Dâman where the fluctuating revenue system is in force, the crop rates used are—

			Maximum. Rs. As. P.	Minimum. Rs. As. P.
Rabi.	Wheat	...	1 0 0	0 10 0
	Mustard	...	0 12 0	0 8 0
	Assun	...	0 10 0	0 6 0
	Barley	.	0 12 0	0 7 0
	Melons	...	0 10 0	0 8 0
	Miscellaneous	...	0 12 0	0 7 0
Kharif.	Bajra / Jowar	...	0 10 0	0 6 0
	Cotton	...	0 12 0	0 8 0
	Til	...	0 10 0	0 7 0
	Miscellaneous	...	0 12 0	0 7 0

Paras. 464, 471, 484, 504, 506.

For the rest of the district, the soil-classes and revenue-rates were—

			Maximum. Rs. As. P.	Minimum. Rs. As. P.
Lands watered by	Karez	...	2 8 0	.....
	Springs	...	1 8 0	.....
	Wells	...	1 8 0	0 10 0
	Wells and floods	...	1 8 0	1 2 0
	Floods only	...	1 2 0	0 11 0
	Rain	...	0 12 0	0 2 8

Paras. 493—497.

In the Indus riverain tract treated with a fluctuating assessment, the average sailaba rate is 13 annas, and the incidence of the well jama varies from 6 annas 9 pie to 11 annas 4 pie, giving a total incidence of Re. 1-8-4 to Re. 1-3-9 upon well lands. On wells the incidence ranges from Rs. 6-13-0 to Rs. 8-14-0.

The settlement report has not yet been reviewed.

Administration Report.

The 1878-79 land revenue demand is shewn as Rs. 4,62,970. The incidence of this revenue demand on the cultivated acre appears as Re. 0-9-2, and the irrigation percentage as 46, while the culturable waste is four times the cultivated area.

GURGAON.*

Area ... 1,980 *sq. miles.*

Population ... 6,89,653.

THE first regular settlement of Gurgaon was made between 1836 and 1842, and lasted for 30 years. There is no report of it to hand. Towards the close of 1871, revision began. Measurements were finished by the end of 1874, and the assessment reports were submitted for approval in 1875-76. The settlement was finished in October 1879. It was conducted by a Settlement Officer, without any European assistant; and was subsequently put under charge of the Settlement Officer of Delhi, with an assistant settlement officer resident in Gurgaon. The results were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
11,14,499	12,78,363	1,63,864	14·7	4,50,000

The assessment standards were one-sixth of gross produce and half net produce, the new revenue incidence per cultivated acre varied from Re. 1-2-4 to Re. 1-7-0, and the revenue-rates employed were the following:

Lands watered by—		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Wet	Wells	4 0 0	2 4 0
	Natural drainage ...	3 3 3	1 8 0
Dry	Loam	1 9 0	0 14 0
	Light loam ...	1 6 0	0 14 0
	Clay	2 0 0	1 2 0
	Sand	1 3 0	0 7 0

The settlement has not yet been formally sanctioned.

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* NOTE.—The notes on the revised settlements in this and the eight following districts have been compiled from the Revenue Reports, the provincial Administration Report of 1878-79, and the district sketches in the 2nd volume of Famine Papers.

KOHAT.

Area ... 2,839 *sq. miles.*

Population ... 145,419.

THE present is the first regular settlement of the Kohat district. It began in December 1874, under the charge of the Settlement Officer of Peshawur; assessments were sanctioned in July 1877, and operations were nearly completed by March 1879. The results were—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
81,140	96,890	15,750	19·5	2,65,182 (to 31st March 1879).

The assessment standard was 12 per cent. of gross produce on dry, and 24 per cent. on wet lands; the new revenue incidence per cultivated acre was Re. 1-1-5 in one tahsil, and Re. 1-3-7 in the other, and the revenue-rates used were—

Lands watered by—		Maximum.			Minimum.		
		Rs.	As.	P.	Rs.	As.	P.
Wet	Springs	3	4	0	1	12	0
	Wells ...	3	0	0	1	14	0
	Canals ...	2	10	0	1	4	0
Dry	Open to floods ...	0	12	0	0	8	0
	Rain-fed ...	0	6	0	0	3	0

Wet lands bearing two crops in the year were assessed at double the above wet-rates.

The settlement has not yet been formally sanctioned.

DELHI.

Area ... 1,277 *sq. miles.*
Population ... 608,850.

THE first regular settlement was made between 1838 and 1844.

The present revision of settlement began towards the close of 1871. Demarcation of boundaries was completed about the middle of 1873, in which year also the measurements began. They were not finished till 1875-76, and the first assessments were made in the following year. It is expected that the settlement will be finished in June 1880. Meanwhile the following statistics regarding the probable results of revision are given in a statement compiled by the settlement officer : Revenue Reports. Punjab Report in reply to the inquiries issued by the Famine Commission; Vol. II., p. 638.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
9,18,532	9,48,455	29,923	3·3	4,25,856 (to 31st March 1879).

Revenue Report, 1877-78, Statement XXI.

These figures include assigned revenue, which under the old settlement was Rs. 55,131. They also include estimated receipts from owner's rate, which by the calculations of past measurements should come to about Rs. 1,10,000. The net khalsa demand will probably be about Rs. 8,00,000.

The revenue-rates used were—

		Minimum.			Maximum.		
		Rs.	As.	P.	Rs.	As.	P.
Wet	Canal lands ...	3	2	0	1	12	0
	Well lands ...	4	0	0	2	4	0
	Naturally moist	2	14	0	2	0	0
Dry	Clay, Loam ...	1	12	0	0	15	0
	Sand ...	1	0	0	0	10	0

The present (1878-79) irrigation percentage is 33 (18 per cent. canals), and the culturable waste percentage is 20. The revenue incidence is shown as Re. 1-13-6 per cultivated acre, but this is the incidence of the old assessments. Administration Report.

KARNAL.

Area ... 2,352 *sq. miles.*

Population ... 610,927.

THIS district consists of the tahsil of Panipat transferred from Delhi, and the tahsils of Karnal and Kaithal, transferred from the old Thanesar district. The first regular settlement has been accounted for in the notes on those two districts. The revision of that settlement in the Panipat and half the Karnal tahsil began in January 1872, and lasted till 1880. It was effected by a Settlement Officer, without a European assistant, and the results were as follow:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,82,908	5,41,053	—41,855	7	3,74,672 (up to 31st March 1879).

The assessment standard was half net produce; the new revenue incidence per cultivated acre was Rs. 2-7-3 in one tahsil, and in the other varied in different circles from Re. 1-14-9 to Re. 0-13-10 in the high lands.

The revenue-rates employed were—

		Maximum.	Minimum.
		Rs. As. P.	Rs. As. P.
Wet	...	... 2 14 0	1 14 0
Dry	Clayey loam...	... 1 8 0	0 12 0
	Light loam ...	... 1 8 0	0 9 0
	Sand ...	... 1 0 0	0 8 0

The settlement has not yet been formally sanctioned. The revision of the settlement of the other half of Karnal and of Kaithal is under discussion.

MULTAN.

Area	... 5,927 *sq. miles.*
Population	... 471,563.

THE Multan district has twice come under regular settlement. The first settlement operations began in February 1855 and lasted till July 1860, or five years and five months. They were conducted by a Settlement Officer with one native assistant, and resulted in a revenue reduction of 18 per cent., the new khalsa revenue being Rs. 4,72,563, besides Rs. 7,516 jagir. The cost is not shewn.

Pages 21, 2, 19, 33 (statement).

Page 27 shews the new assessments as Rs. 4,70,906, and this is the figure taken by the Financial Commissioner. Alluvion and diluvion perhaps account for the difference.

The first summary settlement was made in 1849 at Rs. 5,92,948, lasted till 1854, and was very unequal. The second, made at Rs. 5,79,864, worked fairly, and lasted till 1858.

Pages 2, 27.

Assessment in the first regular settlement was made by first dividing each tahsil into three circles—the low lands on the river *(khadir)*, the high lands on the dorsal ridge or Bar above the river valley *(bángar)*, and the strip between *(rawa)*. Rates were then fixed (it is not said how) which approximately represented the amount of Government revenue per acre payable by the various descriptions of land in each circle, under circumstances of average prosperity. The soil-classes seem to have been made with reference to modes of irrigation (by floods, canals, or wells). From these rates the assessing officer "calculated broadly the amount claimable from each village. Finally, this amount was modified, where necessary, with regard to village peculiarities."

Pages 23—26, 3, 12, 5.

Lands subject to inundation had hitherto been treated with annual measurements and variable jamas. They were now all assessed like other lands, subject to the ordinary rules of alluvion and diluvion. At the same time the settlement officer, considering the variable nature of both flood and canal irrigation, prepared lists of all the villages in both classes, together with the amount of revenue in each village which should be remitted, in whole or in part, according to the failure of irrigation. This method of variable assessment, though objected to by the Commissioner, was accepted by the Financial Commissioner, and not repudiated by the Government.

The revenue-rates adopted are not shewn in the Report, but a statement

Famine Papers Report, page 33 (statement).

compiled by the present settlement officer, in December 1878, gives them as follows;

	Maximum. Rs. As. P.	Minimum. Rs. As. P.
Lands watered by—		
Canals { Flow	... 1 0 0	0 8 0
Canals { Lift	... 1 4 0	0 12 0 *(sic)*.
Canals and wells	... 2 8 0	1 0 0
Wells and floods	... 2 8 0	1 2 0
Wells only	... 1 8 0	0 12 0
Lift from rivers	... 1 4 0	1 0 0
Floods	... 1 2 0	0 4 0
Natural drainage	... 0 4 0	...

The incidence of the new assessments per cultivated acre was as follows:

Tahsil.	Rs. As. P.
I.	1 1 3
II.	0 11 3
III.	0 13 1
IV.	1 2 3
V.	1 14 7
Whole district ...	1 1 5

Pages 5, 6.

Tenures were zamindari and bhayachara —principally the latter. On the Bar, village communities did not exist. "Each "well has its separate owner, unconnect- "ed with its neighbour,—often a separate "hamlet or hut, with no common land, "interests, or homestead, no ties of race, "religion, or kindred." Settlement was however made on the village community system, the owners of patches and wells being represented by headmen.

Page 33 (statement).

Not much more than one-third of the culturable area of the district was under cultivation. There are no irrigation statistics.

Revenue Reports.

The settlement was sanctioned for ten years, and should have expired in 1868.

Revision did not begin till 1872-73. The revenue had meanwhile increased, chiefly on account of progressive jamas and settlement of new estates. In 1864-65 it is shewn as Rs. 5,00,814; in 1876-77 it was Rs. 5,31,168, and Rs. 5,45,530 including jagirs. In the following year the new assessments began to take effect, and the total revised demand is shewn as Rs. 6,43,607 in the statement mentioned above. The cost of the settlement is shewn as Rs. 4,32,645. The incidence on cultivation, which had fallen to Re. 0-10-11, has been raised to Re. 1-3-10. In 1878-79 the irrigation percentage appears as 51 (42 per cent. canals), while the culturable

Administration Report.

Revenue Report of 1878-79, Statement XXII.

waste is 3¼ times the area of the cultivated lands. Cultivation had increased 55 per cent.

The new revenue-rates are shewn below :

			Maximum.			Minimum.		
			Rs.	As.	P.	Rs.	As.	P.
Lands watered by	Canals	Flow ...	1	12	0	0	10	0
		Lift ...	1	12	0	0	8	0
	Canals and wells	...	3	2	0	1	0	0
	Wells and floods	...	1	8	0	0	14	0
	Wells only	...	1	2	0	0	8	0
	Lift from rivers	...	1	4	0	0	12	0
	Floods	...	1	4	0	0	12	0
	Drainage of rain-fall	...	0	4	0	...		

The present settlement apparently lasts till 1908.

ROHTAK.

Area ... 1,811 *sq. miles.*
Population ... 536,959.

PART of the present Rohtak district was settled in the first regular settlement of Delhi. The present revision of settlement began in November 1873; measurements were finished by 1875-76, the assessments received sanction in 1879, and the settlement report was expected early in 1880. The work was done by a Settlement Officer, without a European assistant. Results were as follows :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
8,95,976	10,62,260	1,66,284	18·7	3,08,762 (up to 31st March 1879).

The assessment standard was one-sixth of gross produce, and the new revenue incidence per cultivated acre varied from Re. 1-11-1 to Re. 0-13-7 in the various tahsils. The revenue-rates employed were—

		Maximum. Rs. As. P.	Minimum. Rs. As. P.
Wet	Canal lands ...	2 12 0	2 6 0
	Well do. ...	2 12 2	2 0 0
	Naturally moist ...	3 0 0	2 12 0
Dry	Clay ...	1 6 0	0 9 6
	Loam ...	1 3 0	0 8 6
	Sand ...	0 12 0	0 6 0

The settlement has not yet been formally sanctioned.

JHANG.

Area ... 5,702 *sq. miles.*
Population ... 384,027.

THE district of Jhang was regularly settled in 1859. Revision of this settlement began in October 1874, and the last assessments were sanctioned in 1879. The work was done by a Settlement Officer, without a European assistant, and the results were—

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
2,67,365	3,60,179	92,814	34·7	3,31,224 (to 31st March 1879).

The assessment standard was about one-tenth of the gross produce; the new revenue incidence varied from Re. 1-1-11 to Re. 1-0-8 per cultivated acre in the different tahsils, and the revenue-rates used were as follows:

	Lands watered by—	Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Wet	Wells	1	12	0	0	14	0
	Wells and floods	1	6	0	1	4	0
	Wells and wheels						
	Wheels only	1	4	0	0	12	0
Dry	Alluvial	1	8	0	0	8	0
	Rain-fed	0	8	0	.....		

The settlement has not yet been formally sanctioned.

JHELUM.

Area ... 3,910 *sq. miles.*

Population ... 500,988.

Page I. Report, para. 311.

SETTLEMENT operations lasted from June 1855 to April 1864, *i. e.*, eight years and ten months. They were conducted by a Settlement Officer, who, however, was present only three and a quarter years, the district officer carrying on the work in his absence, with the aid of the native staff. The results were (khalsa revenue only)—

Page IV. Report, para. 309.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
6,33,302	5,78,050	—55,252	8·7	1,51,228

Para. 222.

Jagirs and muafis came to only Rs. 32,000 altogether.

There seems to have been only one summary settlement before the regular settlement.

Para. 176.

Revenue-rates on soils were got by a process which the settlement officer describes in these words—"Certain assessments were assumed as fair from personal knowledge and careful enquiry—some being reductions, some an increase. These were totalled up for the circle, and then various rates tried on the totals of the different sorts of soil, till this total result was fairly obtained. The lumberdars will readily give the proportionate value of an acre of each sort of soil, viz., as 1 to 2 or 3 to 4, and so on, though their estimates of actual rates are of course of very little value. These rates are then tried on each village; great discrepancies appear; enquiry is made and causes of difference explained away where possible, but still the result is evidently wide of the mark in very many villages. It is soon seen that some particular soil is in excess in those which are too high; another sort in excess in those which are low. The rate on this latter is raised, and the former reduced, and the result tried over again; and after two or three trials, if your measurements are fairly correct, you attain a very fair approximation to the assessment you had determined on. This is now carefully modified by comparison with that deduced from your rates, and a final look taken at your notes, and all the little points considered.

"The opinions of leading men are taken "as a further check, and the result at "last entered to be inspected and passed "by the Commissioner." Other data were assessments estimated by committees of respectable men, or by the native assistants, and all the data were checked by the settlement officer's personal knowledge, of which he says that it gradually became so accurate and complete that there were few villages where the assessment would have been much different had he had no returns whatever. Para. 174. Para. 181.

The revenue incidence per cultivated acre was— Appendix 9.

Tahsil.	Rs.	As.	P.
I.	1	3	4
II.	1	6	8
III.	0	13	3
IV.	0	8	6
Whole district ...	0	15	5

The incidence on estimated gross produce is not shewn, but the produce jama at 50 per cent. of net outturn, after deducting cultivation expenses, proved so very large that it had to be discarded. Para. 174.

Tenures are not shewn. Apparently the percentage of proprietary cultivation was high. Tenants used to hold at revenue-rates, paying also their quota of village expenses and cesses. At settlements these rates were enhanced by two to ten annas in the rupee according to the capabilities of the village, in the case of all but ancient tenants, *i. e.*, those "who had come into the village before the great famine" (1833). Paras. 225, 241, 247—249.

The irrigation percentage (exclusive of sailaba 2·2 per cent.) was only 3½. Appendix 8.

The settlement officer writes—"Nothing "in the whole settlement has been so "much fought about as the question of soils. "It was the main point which came home "to every one. The universal custom is to "pay twice as much on one sort and four "times as much on another; so that each "field was of importance, and in very "many cases the sorts had to be settled by "arbitration." The soil-rates, however, are nowhere shewn in the report, and, judging from the process by which they were got, they can scarcely have been of much value. In a note on the present revision of settlement (1878), the old revenue-rates are given as follows : Para. 134. Famine Papers. Para. 141, 146.

	Maximum. Rs.	As.	P.	Minimum. Rs.	As.	P.
Well lands ...	4	0	0	3	10	0
Dry manured ...	2	1	0	1	4	0
Do. reach loam ...	2	0	0	1	0	0
Do. ordinary ...	1	8	0	0	11	0

Para. 186 *et seq.*
Review, page 5.

The settlement is said to have been made light to order. The settlement officer does not conceal his opinion that it was too light. It was sanctioned for ten years, ending 1873-74.

Famine Papers, Vol. II., page 661.

Revenue Reports.

The present revision of assessment, which is still awaiting sanction, is described as follows by the settlement officer: "The assessment have been made on the half-assets system; that is to say, they are aimed at taking one-fourth and one-sixth of the grain produce, according as the prevailing rents are one-half or one-third. In the Talagang tahsil and west part of Chakwal, where the rainfall is scanty, the prevailing rents are one-third produce; in the rest of the district they are one-half produce. The produce has been estimated with a large allowance for the vicissitudes of seasons and variations of prices; consequently in the majority of years the revenue will fall short of the proportion of the produce which theoretically it should represent. Another cause which operates in the same direction is that during late years cultivation has been largely extended, and the poorest soils are now under cultivation; and it is difficult to increase the cash revenue demand proportionately, as well as dangerous to value too highly the increase of cultivation in the poorer soils of a district depending almost entirely on rain."

Revenue Report, 1877-78.
Statement XXII.

Taking the total revenue demand, khalsa and jagir, of the 31st March 1878 as the old assessment, the results of settlement were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
6,12,776	6,92,372	79,596	13	3,68,301

The cost is shewn up to the 31st March 1879 only; settlement operations being estimated to conclude on the 31st March 1880. The new revenue-rates were as follows:

		Maximum.			Minimum.		
		Rs.	As.	P.	Rs.	As.	P.
Well-lands	...	4	0	0	2	4	0
Dry — Manured	...	2	3	0	1	0	0
Dry — Rich loams	...	2	0	0	0	12	0
Dry — Average soils	...	1	3	0	0	9	0

The present irrigation percentage is less than 3. The culturable waste percentage is 20. Nearly half the area of the district is unculturable. The average incidence of the new assessments per cultivated acre is Re. 0-12-2.

MUZAFFARGARH.

Area ... 2,954 *sq. miles.*

Population ... 295,547.

MUZAFFARGARH was summarily settled in 1859-60. The first regular settlement operations began in 1872-73, and are now nearly complete. Assessment data are shewn for one tahsil only, where the assessment standard varied from 13 to 14 per cent. of estimated gross produce, and the revenue-rates used were—

Lands watered by—		Rs.	As.	P.
Canals	Flow	0	15	6
	Lift	0	14	0
Canals and wells		1	3	3
Wells and floods		1	2	0
Floods		0	12	0

THE MADRAS RYOTWARI SETTLEMENT.

MADRAS*

PROVINCIAL SUMMARY.

Administration Report, 1875-76, page 50.

Page 48.

General character of the Madras ryotwari settlement.

ABOUT one-fifth of the Madras Presidency is permanently settled with private proprietors called zamindars. In the remaining four-fifths, with which alone the present notes are concerned, the form of settlement is ryotwari. The cultivator, who is to all intents and purposes a peasant proprietor, deals directly with the Government, without the intervention of any middleman, and his right of property in his land is indefeasible until he fails to pay the land-tax due on it. Every field is assessed to land-revenue. During a stated period of each year, cultivators may either obtain more fields, or give up any of those which they have. The exercise of this option of increasing, decreasing, or entirely abandoning a holding, necessitates an annual revision of the revenue-roll, for the purpose of deciding the amount which each ryot shall pay for the year to come, and of issuing fresh leases when any change occurs in the extent of the holding. The land thus held by the ryot is to all intents and purposes his private property, which he is at liberty to sublet, mortgage, or sell, as he deems fit; the land and the crops thereon remaining as security for the due payment of the Government revenue. Remissions of the revenue demand are granted in certain specified cases, as in the event of failure of irrigation from a water-supply assumed to be sufficient when the demand was fixed, or in the case of loss of crops by drought, floods, or other calamity.

Selections of the Madras Government, No. 53, page 2.

Madras Revenue Department, No. 951, 14th July 1855.

Origin of the settlement operations now in progress.

Page 3.

The Madras revenue survey and settlement owes its origin to a resolution recorded by that Government in 1855, after the subject had been ten years under discussion. It was rendered necessary by the imperfection and untrustworthiness of existing data of land assessment. No regular survey and classification of soils had ever been undertaken throughout the province. Attempts had been made in some districts, during the years immediately succeeding annexation, to establish something like a register of lands and fixed rates of assessment, founded on actual measurement and valuation. But these measures were in every case carried out

* These Madras notes have been revised and corrected by the kindness of Mr. R. K. Puckle, Acting 1st Member of the Board of Revenue, Madras, and Mr. H. F. Clogstoun, Acting Accountant General, Calcutta.

in haste, with imperfect agency, and in many respects in a very defective manner. Even these defective and imperfect surveys extended to only a few districts, and it was stated in 1855 that in many districts the land revenue demand was based merely on the unchecked statement of the Kurnam, who had thus vast opportunity both of making exaction on the ryots, and in collusion with them of defrauding the Government, whether as regards revenue-paying lands, inams, or waste. Pages 3, 4, 5.

Original scheme of the settlement.

The scheme, as originally sketched out, was divided under the following heads :

(1). A revenue survey, shewing all the principal variations in the surface of the soil, as hills, jungle, roads, channels, tanks, topes, houses, cultivated and culturable lands—and also exhibiting accurately the sizes of fields in these last two classes of land. Page 6.

(2). The minimum size of fields was to be one acre of wet and two acres of dry land.* Page 6.

(3). Permanent boundary marks were to be established, and field, village, and taluq maps prepared. Page 7.

(4). Assessment was to be ryotwar, as "decidedly in advance of settlements by "villages or other communities." Page 7.

(5). The terms of the annual settlement made with each ryot were to vary simply with the area or quality of the lands held by the ryot, and his use or non-use of water from a Government source. Page 8.

(6). Soils were to be divided into a few classes, based on real tangible differences of composition. Pages 8, 9.

(7). The settlement officer was to estimate, as nearly as possible, the productive power of the land, stated in quantities of some one of the ordinary grain crops; paddy for irrigated lands, and cumboo, cholum, or some other grain for unirrigated. These estimates (hereafter called 'grain-values') were to form the basis of the ultimate assessment. They were to be made on a carefully moderate scale, so as to allow for indifferent crops and bad seasons. Page 9.

(8). The land was then to be valued with regard to nearness of village, roads, markets, irrigation facilities, &c., and the field or the village was to be classed accordingly. Page 10.

* 'Wet' and 'dry' are the terms commonly used in Madras settlement reports to denote, respectively, irrigated and unirrigated land. They have been adopted throughout the following pages for the sake of convenience.

Pages 10—12.

(9). The assessment was to be moderate. Existing rates were generally based on 50 per cent. of gross produce for wet, and 33 per cent. for dry lands. Sir Thomas Munro's maximum was 30 per cent.; and this was now adopted, on the assumption that the average would run at about 25 per cent. of the gross produce.

Pages 12, 13.

(10). The ryot's payment was to vary with the rateable money-value (or 'commutation-price') of the standard crop, fixed every seven or ten years, on the average of the same period.

Page 14.

(11). It was believed that it would not be found necessary to divide the country for the purpose of official scales of prices, *i. e.*, one scale was to apply to the entire Presidency for the term adopted. But this principle was abandoned in practice, and the commutation prices of every district have been calculated independently.

Page 15.

(12). The grain-values were to be unalterable for a period of 50 years.

Page 17.

(13). It was to be open to the ryot to compound for a fixed annual payment for a term of years. Such composition was to be subject to rules as to deductions for waste, fallow, bad seasons, &c., and the privilege was to be restricted to holdings of some considerable size.

Pages 21, 23.

(14). The Survey Department and the Settlement Department were to be separate—the former under a Surveyor-General, the latter under a Superintendent of Settlement.

Page 24.

(15). The total cost was estimated at 76½ lakhs, spread over a period of 15 or 20 years. But this estimate has been greatly exceeded. Up to the 31st March 1879 the total expenditure on revenue survey has been Rs. 64,91,195, and on settlement Rs. 61,32,783.* There are 10,112 square miles awaiting revenue survey, at the rate of 1,200 miles a year, and at an annual cost of Rs. 5,70,000. It is expected that settlement operations will be concluded in 1892-93. The annual cost is estimated at Rs. 1,57,470.

Administration Report, 1878-79.

Madras despatch No. 2 of 1880.

* These figures have been obtained as follows:

		Rs.
Total survey cost	...	69,97,031
Deduct Madras, Malabar, and Nilgiris	...	5,05,836
Remainder	...	64,91,195
Total settlement cost	...	62,49,469
Deduct Wynaad	...	1,16,686
Remainder	...	61,32,783

Pages 18—19.

(16). The result was expected to be an immediate loss of revenue, consequent on the reduction of the Government share of the gross produce. But this was to be more than recouped by extension of cultivation. At that time less than one-fifth of the whole area of the Presidency was under tillage, and notwithstanding the large growth of population, there had been scarcely any increase of the land revenue during the 34 years since the final adoption of the existing ryotwar settle-

ments—a proof how little the area of cultivation had been enlarged.

This scheme was accepted in the main by the Court of Directors. Objections taken with regard to some points, after reference back to Madras, were decided by the Secretary of State as follows:

Pages 181—195, 234—247.

Subsequent modifications.

(9). The assessment was to be made on the *net* produce, *i. e.*, after deducting the expenses of cultivation. It was to be a matter of judgment and discretion rather than of arithmetical calculation. In 1864 the Government share of the net produce was fixed by the Secretary of State at one-half. The question had been raised in the Trichinopoly assessment scheme.

Selections, No. 74, 1863, pages 86—94.
Despatch No. 7 of 24th February 1864.

(10) and (12). The term of settlement was to be 30 years, *i. e.*, both grain-values and commutation prices were to remain unalterable for that period. It was at first proposed to make grain-values unalterable for ever, but the Secretary of State finally decided to the contrary in 1870.

Despatch No. 6, 17th March 1870.

(13). Leases for a term of years at reduced rents were found to be unnecessary for the encouragement of large holdings.

Treatment of irrigated lands.

At the same time two other points were disposed of, *viz.*, the question of water-rate and the question of *mirasi* rights. The Madras Government had already decided that a separate water-cess should be levied in the Godavery and Kistna deltas, and the Secretary of State desired that a similar plan should be adopted in all other districts where it was found practicable. As a matter of fact, however, no other districts except Kurnool Proper have been so treated.* Lands receiving water from the works of the Madras Canal Company in Kurnool and Cuddapah pay the Company a water-rate (from 2 to 6 rupees per acre) in addition to the land-revenue paid to the Government; but this rate had nothing to do with fixing the assessments, and is not reckoned as a part of them. In all districts, lands classed as 'dry' pay a rate for water if they take it from a Government source (canal, tank, or river). Lands watered from wells are not assessed as 'wet,' but in most cases as 'permanently improved' dry lands. If the wells are within ten yards of a Government source, they are supposed to be supplied by percolation,

* Mr. Puckle notes here, "The loss of revenue would have been too great; as it is, the Kistna district escapes with at least 30 per cent. less than it would pay if its irrigated area was charged with consolidated wet-rates such as are the rule throughout the province."

Enclosures to G. O. of 9th February 1880, page 7.

and the land is liable to be assessed as 'wet.' Where irrigation is by lift or baling from channels or rivers, a reduction of one rupee is made in the wet-rate, except in Trichinopoly, where such lands were classed as dry.

The Mirasidars.

The solution proposed for the mirasi question was that the mirasidars should be offered the culturable waste on the usual terms, and in default of their engaging for it, outsiders were to be admitted, without becoming sub-tenants of the mirasidars. A means was ultimately found of compensating the latter for the loss of the exclusive rights which they claimed in waste lands (see Chingleput note below).

Selections, No. 53, page 204.

Organisation of the Department.

The appointments of a Surveyor-General and a Superintendent of Settlement (since known as Superintendent of Revenue Survey and Director of Revenue Settlement) were sanctioned by the Government of India in June 1857. At this time the survey of three taluqs of South Arcot had been completed by a special party sanctioned by the Government of India as far back as September 1854.

Pages 200, 205—206.

The department having thus been organised, certain details remained to be settled by the Director in communication with the Board of Revenue.

Survey Progs., June 1875, No. 2, Appendix A, page 14.

Selections, No. 74 of 1863, pages 102, 103.

Areas of fields.

(*a*). The maximum areas for wet and dry survey 'numbers'* were fixed at 2 acres in wet, 4 acres in garden or valuable dry land, and 12 acres in poor dry land. There is no minimum. Fields included within survey 'numbers' were measured up by the survey till 1862, and from 1864 to 1872 the survey was responsible for sketching them in after partial measurement. The expense and trouble involved by these orders led to their abolition in 1872, and interstitial fields are now measured by the settlement department after the survey is over.

Pages 229—232.

† In the two taluqs of South Arcot first surveyed, the classification was somewhat different.

Classification of soils.

(*b*). Soil-classes were determined as follows† :

1st.—The *Alluvial* and *Exceptional*, which provides for the rich island soils of extraordinary fertility, and for garden and other soils permanently improved, and ranking above the ordinary cultivation.

2nd.—The *Regada* series, comprising what is called the black cotton soil, with all its varieties.

* A survey 'number' (*i. e.*, a division of land made and numbered at survey) may include several fields merged in it for convenience of survey. Each field so merged is distinguished by a separate letter, as 21 A, 21 B, 21 C, &c., and is registered and dealt with at settlement irrespective of survey clubbing. On an average, there are three such sub-divisions to every survey 'number.'

3rd.—The red *Ferruginous* series, originating from sandstone, laterite, &c., and possessing distinct characteristics in its constitution and fertility.

4th.—The *Calcareous* series,* originating from under-lying strata of chalk or lime, the original character being more or less modified by atmospheric and other influences as respects the surface soil.

* This series has not occurred in any district hitherto settled.

5th.—The *Arenaceous* series, comprising chiefly the sandy tracts originally deposited from the sea in littoral districts.

These five primary series of soils are sub-divided into clay, loam, and sand according to their mechanical composition. Clay soils of each series are those containing more than 66 per cent. of clay; loamy soils, those with one-third to two-thirds clay, and the rest sand; sandy soils, those with more than two-thirds sand. The classification is made by classifiers, under head-classifiers and supervisors. It is said to be simple and easily intelligible. In selecting samples, the soil is turned up to a depth of 6 or 8 inches, and the proportions of sand and clay, where doubtful, are tested by dissolution in water.

Each of these secondary soil classes is again sub-divided into a number of grades (usually three to five) according to natural advantages and fertility, and a separate grain-value is assigned to every grade.

The survey.

(*c*). The survey is made on the scale of sixteen inches to the mile for the village maps, reduced to one inch to the mile for the taluq maps. This is distinct from the topographical survey of lands other than ryotwari, which is on a two-inch or a four-inch scale. In every district, the effect of the survey has been to increase the recorded area of cultivation, but this is not due so much to the bringing to light of concealed cultivation, as to more accurate measurement and the inclusion of those unprofitable areas (as, banks, ditches, hedges, rocks, &c.) which were carefully excluded by the old surveys.

Madras Revenue Progs., November 1879, page 5611.

Demarcation of boundaries.

(*d*). The demarcation of boundaries used to be part of the work of the settlement department. In 1864 it was resolved to make it over to the survey, and this has been done since 1866.

Surveys, June 1875, No. 2, Appendix A, pages 8, 9.

The 'blocking' method.

(*e*). The field classification has latterly been checked by 'blocking,' that is, by applying the same rate to a considerable area of land similarly circumstanced, without reference to the petty distinctions proposed by the classifiers. This

Madras Revenue Progs., 6th December 1878, No. 1964.

plan has been followed in Tinnevelly, Chingleput, and Coimbatore. It is considered more expeditious, and perhaps more equable, than the old plan, under which the classifiers, besides distinguishing black soil from red, and clay from sand, were required to assign every individual field independently to one of the sub-divisions of these primary soil classes, without any reference to surrounding circumstances and existing rates of assessment.

Grain-values.

(*f*). Grain-values are determined by the help of numerous experiments, which consist in reaping, threshing, and weighing the crop upon small areas (such as half an acre) in selected fields. The number of experiments in some districts has exceeded two or even three thousand. The results are taken as a guide to the grain-values, but the latter are not calculated by any purely arithmetical process. They are exhibited in Madras measures per acre. The Madras measure is a seer and a half (3·085lbs.)*

Salem Collection, pages 189, 192.

Commutation-prices.

(*g*). Commutation prices were ordered in 1869 to be calculated on the average prices ruling in the ryots' selling months during the twenty years ending 1864-65, but this order was not to have retrospective effect. The immediate occasion of the order was the sacrifice of revenue apprehended in the Salem district from settlement on the average prices of forty-two years past. The standard of weight for commutation prices is the Madras garce of 4,267 seers (8,777¾lbs.)

Revenue-rates: Second-crop assessments.

(*h*). In deducing the revenue-rates, attention has to be paid both to the capability of the soil and to village grouping. Soils of like yield, irrespective of their classification, are bracketed together in orders (called *tarams*), each with its own revenue-rate. Thus, in Coimbatore there are nine tarams for wet lands, with revenue-rates ranging from 12 rupees for the first taram to 2½ rupees for the ninth taram; and eight tarams for ordinary dry lands, with rates varying from two rupees to 4 annas. Under each taram are bracketed several classes and grades of soil. The object of village grouping, as regards dry lands, is mainly to correct inequalities in respect of proximity to roads and markets; while in the case of wet lands, the principal criterion is the nature and quality of the water-supply. It is not always necessary to form any groups for dry lands. The result of grouping is to decide the application

* The standard Madras measure is 100 cubic inches *struck*, or a seer and one-third (2·74lbs.) But the popular Madras measure, as shewn in the text, is that used in settlement; it is 100 cubic inches *heaped*.

of the tarams. Thus, in Coimbatore, the wet lands of villages in the first group were assessed, according to their classes and grades, at the revenue-rates of the first seven tarams; in the second group, the tarams numbered 2 to 8 inclusive were applied; to the third group, tarams 3 to 9. Similarly the two groups of dry lands were assessed at the dry-rates of tarams 1 to 7, and of tarams 2 to 8, respectively. The system will be easily understood by reference to the table in the margin.

For wet lands in Coimbatore.

Soil.		1st group.		2nd group.		3rd group.	
Class.	Grade.	Taram.	Revenue rate.	Taram.	Revenue rate.	Taram.	Revenue rate.
			Rs. As.		Rs. As.		Rs. As.
Black loam...	1	1	12 0	2	10 0	3	8 0
Do. clay ...	1						
Do. loam	2	2	10 0	3	8 0	4	6 0
Red loam ...	1						
Black clay ...	2						
Do. loam ...	3						
Red do. ...	2	3	8 0	4	6 0	5	5 0
Do. sand ...	1						
Black do. ...	1						
Black clay ...	3						
Do. loam	4						
Do. sand	2	4	6 0	5	5 0	6	4 0
Red loam ...	3						
Do. sand ...	2						
Black clay ...	4						
Do. loam ...	5						
Do. sand ...	3	5	5 0	6	4 0	7	3 8
Red loam ...	4						
Do. sand ...	3						
Black clay ...	5						
Do. sand...	4	6	4 0	7	3 8	8	3 0
Red loam ...	5						
Do. sand ...	4						
Red sand ...	5	7	3 8	8	3 0	9	2 8
Black do. ...	5						

Salem Collection, pages 152, 153.

(*i*). Where wet land yields two successive crops, the second crop pays an extra assessment, in addition to the original wet-rate of the land. In most districts, the permanent double-crop area has been compounded for at consolidated rates 25 to 50 per cent. in excess of the normal wet-rates. Besides this, there is always a considerable area of casual second-crop cultivation, which fluctuates according to the character of the year and the supply of water.

(*j*). The abolition of the settlement department was sanctioned in 1864, but the order was never carried out, as the experiment of leaving the work to Collectors did not prove satisfactory, and the department was re-constituted early in 1868.

Settlement by Collectors.

In the Administration Report of 1875-76, the following description is given of the revenue survey and settlement as at present constituted:

Official description of settlement processes.

I.—The Survey (including demarcation of boundaries.)—"The survey combines "the operations of a revenue or cadastral "survey with those of a perfect topogra- "phical survey on a trigonometrical basis. "The revenue survey proper, with few "exceptions, is confined to land paying "land-tax to the Government on the ryot- "wari system. Lands held on tenure other "than ryotwari, ranges of hills, and tracts "of waste land or forest of inferior value, "are excluded from the minute detailed "field survey, and are topographically sur- "veyed on a scale of two inches to a mile. "The operations in ryotwari lands are as "follows: The village boundaries are "first settled, every turn of the line being "permanently marked with stone; then "disputes are disposed of, irregular "boundaries are adjusted, very small "villages are amalgamated, and very large "villages are sub-divided. After these "preliminaries, the field boundaries are "permanently marked with stone, and "every holding is registered. Main cir- "cuits of from 50 to 100 square miles "are carried out by the theodolite, the

"angular work being checked by obser-
"vations for azimuth at about every 50
"stations. Village boundaries are also
"surveyed by theodolite, and check lines
"within the village, forming minor
"circuits of from 100 to 200 acres, are run.
"While the boundary work is being set
"up by traverse and plotted, the fields
"are measured by chain in triangles, so
"that when the measurement books are
"received in office, the map is ready to
"receive the fields. After correction of
"any errors that may be found to exist,
"the area of each field is taken by com-
"puting scale, and the sum of the area
"so obtained is compared with the
"traverse area. The village map is then
"sent out for insertion of topographical
"details. Village maps are reproduced
"by lithography for the use of the settle-
"ment department.

II.—The Settlement.—"In making the
"settlement, it is necessary to obtain
"a general view of the characteristics
"of each district about to be settled;
"to ascertain particulars of the climate,
"rainfall, and physical features of such
"tracts or divisions as differ from each
"other distinctly; to search the Collector's
"records for information relative to the
"past history of the district, its years of
"plenty or famine, its land tenures, mode
"of taxation, and the cause of their gradual
"progress; to study the relative values
"of such sources of irrigation as the
"various tracts possess; to determine how
"different tracts are affected by roads,
"canals, market towns, hill ranges or sea-
"board; and to acquire a general idea of
"the prevailing soils in each tract, and the
"relative value of such black or red loam,
"sand, or clay as may be found to exist.
"Each taluq is next visited, and the
"revenue officers and leading ryots
"assembled, and their opinion asked re-
"garding the relative values of villages
"under such and such irrigation, or in
"such and such a position; information
"is also recorded as to the payment of
"labour, the method of cultivation pur-
"sued, the crops grown, the mode of
"disposal of surplus grain, and the mar-
"kets mostly frequented. The villages
"are next formed into groups, with re-
"ference to their several advantages of
"irrigation, climate, soil, situation, &c.,
"and a series of experiments is made to
"ascertain the yield of the staple grains.
"When this has been determined, a table
"is framed showing the yield of each
"class of soil, and this yield is converted
"into money by an average struck on
"20 years' market prices, with some

"abatement for traders' profits and for "the distance that the grain usually has "to be carried. From the value of the "gross produce thus determined, the cost "of cultivation is deducted, and the "remainder or net value of the produce is "then divided, and one-half taken as the "Government demand on the land. This "much is the work of the officer at "the head of each party, but in the "meantime his Native establishment has "been employed in going over the vil-"lages, and classifying the lands according "to soil and circumstance. This oper-"ation is carefully watched and checked "by the head of the party, who even-"tually prepares a scheme for the settle-"ment of the whole or part of a district, "and submits it (through the Director of "Settlement and the Board of Revenue) "for the sanction of Government.

III.—The Record of Rights.—"The "settlement is not only an acreage "charge on the lands in each ryot's "holding, but it fixes the charge on "each acre of waste likely to be cul-"tivated hereafter; and as an average dis-"trict contains 100,000 ryots and some "10 lakhs of fields, the work of introduc-"ing the settlement by issuing puttahs, "hearing appeals, and affording relief "where needed, is one of the most im-"portant parts of the process. In the "districts first settled, it was thought "sufficient to accept existing entries in "the Government accounts, and to issue "the puttahs in the names in which they "then stood, but latterly more has been "done, and the opportunity of making "the settlement has been taken advan-"tage of to divide the common lands, to "allot necessary grazing grounds, to "transfer lands improperly assessed as "wet to dry, or *vice versâ*, and to change "many thousands of puttahs from the "names of deceased ryots or vendors to "those of the actual occupants of the "land exhibited in these puttahs. When "this has been done, a register showing "the number, area, assessment, soil, irriga-"tion, and name of the puttahdar of each "field has been prepared for every village, "and 30 copies of each register have been "printed and distributed, one-third for "sale to the ryots, one-third for official "use, and one-third for reserve in store." The register shews every field (*i. e.*, every separately-held sub-division of a survey 'number'), however small, with the assessment on it entered in a parallel column. From the register is prepared a ledger *(chitta)* which gives each ryot's personal account with the Government, shewing

Completion report of Chingleput settlement, para. 41.

every 'number' or fraction of a 'number' held by the ryot, with particulars of area and assessment, and other details. The total area is the extent of his holding in the village, and the total assessment is the amount due thereon by him to the Government. A copy of this his personal account is given to each ryot, with a note of the date on which each instalment falls due, and is known as his 'putta.' The total number of puttas in the entire Province for the Fasli year 1287 (1877-78) was 2,569,101. They are renewed and altered annually by the revenue officers of the district at the beginning of the revenue year.

Financial results.

The results of the Madras revenue survey and settlement, so far as it has gone, may be summed up as follows:—From 1853 to 1879, that is, in a period of 26 years, eight whole districts have been settled, and parts of four others. The immediate financial results, as stated in the settlement reports, taken chronologically, are shewn below—

Years of settlement.	District.	Old assessment.	New assessment.	Cost.
		Rs.	Rs.	Rs.
1855—1862 ...	South Arcot (part) ...	5,20,605	5,25,717	82,611
1858—1865 ...	Godavery ...	17,10,402	20,94,142	6,09,389
1859—1865 ...	Trichinopoly ...	15,82,074	11,94,018	5,85,516
1859—1874 ...	Kistna	30,00,939	34,69,248	11,20,899
1859—1874 ...	Salem	17,29,016	17,97,381	2,02,485
1859—1879 ...	Kurnool... ...	12,87,123	13,27,500	13,50,754
1861—1875 ...	Nellore	17,10,413	19,17,575	9,96,356
1862—1878 ...	Tinnevelly ...	25,16,366	25,04,256	13,93,994
1866—1879 ...	Chingleput ...	13,58,384	14,10,590	12,53,141
1865—1875 ...	Cuddapah (part) ...	7,46,640	7,93,010	19,10,513
1866—1878 ...	Ganjam (part) ...	4,82,685	5,30,624	7,19,606
1867—1879 ...	Coimbatore (part) ...	14,84,940	15,44,337	13,13,617
	Total ...	1,81,29,587	1,91,08,388	1,23,37,762

But in calculating the relative cost of settlement, South Arcot should be excluded, as having been settled on a somewhat different method, and a widely different scale of expenditure, from the rest of the Presidency. The three other partially-settled districts must also be omitted, as shewing survey expenses for the whole, and settlement results for a part only of their area. Leaving these out, the immediate results of settlement in the eight completed districts stand as follows:—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs	Rs.	Rs.		Rs.
1,48,94,717	1,57,14,700	8,19,983	5½	82,11,415

At this rate, the increase of revenue would repay the expenses of settlement in ten years. But the experience of subsequent years has shewn that the immediate results of settlement are liable to very considerable modification. The famine cycle beginning with 1875-76 prevents the application of this test to the later-settled districts, viz., Kurnool, Nellore, Tinnevelly, and Chingleput. Taking the estimated settlement revenue for these

districts as shewn above, and for the remaining four districts the actual returns of the latest average years, viz.,

District.	Revenue. Rs.	Year.
Godavery ...	24,94,166	1877-78.
Trichinopoly ...	14,06,516	
Kistna ...	34,14,442	
Salem ...	16,69,997	1874-75,

the result is a post-settlement revenue of Rs. 1,60,45,032 for the whole eight districts, against a pre-settlement revenue of Rs. 1,48,94,717. The gain is Rs. 11,50,315, or nearly 8 per cent., and will repay the costs of settlement in 7½ years.

Relative cost of settlement.

It will be noted, however, that the major part of the gain is contributed by the Godavery and Kistna districts, and is due not to any direct effect of the settlement but to the extension of irrigation. These two districts are also those in which the relative cost of settlement has been least, amounting to less than one-third of the revenue secured. In Trichinopoly, Salem, Nellore and Tinnevelly, taken together, the ratio is about one-half. Coimbatore, with its total present revenue demand of 26 lakhs, will apparently preserve about the same proportion. Chingleput and Kurnool are the districts where the settlement has been relatively most expensive, costing nearly as much as an entire year's revenue in the former district, and actually more than that in the latter. As Ganjam has a present land revenue of about 7 lakhs, and Cuddapah of about 17, it would seem that both districts will have to be classed with Kurnool as regards the relative cost of settlement.

Duration of settlement operations.

The earlier settlements were much more expeditiously made than the later. But these latter did not in fact take up so much time as would appear from the table on the preceding page. It frequently happened that a district was settled in two parts, settlement operations being conducted independently in each part, with different dates of commencement and termination; for instance, Kurnool appears to have been 20 years under settlement, but in reality half the district was settled between 1859 and 1865, and the remainder was dealt with subsequently. Making allowance for the great area of Madras districts, settlement work is by no means slow.

Districts still unsettled.

It has not yet been decided to settle the districts of Madras, Nilgiris, Tanjore, Malabar, South Canara, and Vizagapatam. There remain, therefore, the entire

districts of North Arcot, Madras and Bellary to be settled, and parts of South Arcot, Cuddapah, Ganjam, and Coimbatore. From the statistics given on the third page of this note, it is possible to make a rough calculation of the total results of the Madras land revenue survey and settlement. The data are the following :—

Estimate of financial results of the settlement of the whole province.

		Rs.
Total actual cost	...	1,26,24,698
* Estimated future cost	...	72,13,640
Total	...	1,98,38,338

* *Viz.*, 9½ years of survey at Rs. 5,70,000 a year, and 12 years of settlement at Rs. 1,57,470 a year.

Assuming five per cent. as the increase of revenue to be expected from the settlements in the districts and parts of districts still remaining, we have —

District.	Total present revenue.	Revenue of parts settled.	Difference.	Add 5 per cent.
	Rs.	Rs.	Rs.	Rs.
Ganjam ...	7 lakhs.	4,80,000	2,20,000	2,30,000
Cuddapah ...	28 do.	8 lakhs	20 lakhs.	21 lakhs
Coimbatore ...	26 do.	15½	10½	11,02,000
South Arcot ...	29½	5½	24½	25,72,000
North Arcot ...	17	*nil*	17	17,85,000
Madura ...	15	*nil*	15	15,75,000
Bellary ...	21	*nil*	21	22,05,000

		Rs.
Total future results	...	1,15,69,000
Actual results up to date	...	1,94,38,720†
Complete results of settlement		3,10,07,720

† Eight settled districts 1,60,45,032
Four partly settled ... 33,93,688

Or, in round numbers, 200 lakhs expended on survey and settlement operations during 40 years will have secured a revenue of 310 lakhs. The estimate is of course an extremely rough one. On the one hand, it is not certain that the future settlements will give even so moderate an increase as 5 per cent.; on the other hand, the cost is over-estimated, for (1) it includes the survey expenditure in the Nilgiri, Madras, and Malabar districts, which have not been counted as contributing anything to settlement gains, and (2) it makes no allowance for the gradual reduction of establishments as operations draw towards a close. However this may be, the value of the revenue survey and settlement is not to be estimated merely by financial results. There are other important advantages, best described in the words of the present Director: "It is a great "work, well done on the whole, and capable "of very simple revision and improvement "at the end of the 30 years' period. The "cost is great, but the results pay 10 per "cent. on the total outlay so far, and we "have, in addition, maps and registers of "every Government village, and a simple "revenue system, the permanent definition "of boundaries, and the disposal of endless "disputes."

Calculation of annual revenue demand.

Under the Madras system, the annual ryotwari revenue demand is calculated by adding to the actual cultivation, (1) the portion of the waste which is charged for; (2) the assessment on account of second-crop cultivation; (3) additional assessment, or the charge on dry lands irrigated; (4) water-tax; and (5) miscellaneous items; and by deducting therefrom, (1) occasional remissions; (2) fixed remissions; and (3) deductions on account of village establishments and sundry other purposes. The nature of these remissions and deductions will be understood from the subjoined table. The figures relate to all the ryotwari lands of the Presidency, in unsettled as in settled districts. The effect of the drought, then only beginning, is marked in the figures for 1875-76; and the two following years were years of famine.

Year.	Remissions on waste.	Occasional remissions.	Fixed remissions.	Village services.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
1871-72 ...	6,13,261	7,27,054	72,042	12,62,131	26,74,488
1872-73 ...	3,56,558	4,44,037	64,750	11,97,780	20,63,125
1873-74 ...	7,55,528	13,05,449	1,60,743	11,47,053	33,68,773
1874-75 ...	2,70,003	6,96,785	1,50,914	11,73,833	22,91,534
1875-76 ...	11,56,059	14,40,918	1,34,385	11,63,247	38,94,609

Of these items, the last two are really nominal. They are not part of the realizable land revenue of the year. The fixed remissions are granted on groves, as class privileges, for labour in maintaining irrigation works or reclaiming land, &c.; and the cost of village establishments explains itself. Remissions on waste are mostly on account of wet lands left uncultivated in consequence of deficiency or excess of water. Occasional remissions are divided into seven heads, viz., (1) remissions allowed on the gradual introduction of the new rates of settlement; (2) remissions on account of floods; (3) of loss of produce; (4) of wet land cultivated with a dry crop; (5) of failure to cultivate a second crop; (6) of withered crops; and (7) miscellaneous remissions. The first cause is an exceptional one; all the rest vary with the character of the agricultural season. Excepting, then, the first head of occasional remissions, and also fixed remissions and village service charges, the amount of real remissions, *i. e.*, of adjustments of demand to the circumstances of each year, will appear as follows:—

Year.	Amount.	Year.	Amount.
	Rs.		Rs.
1871-72 ...	13,40,315	1874-75	7,44,046
1872-73 ...	8,80,595	1875-76	24,27,778
1873-74 ...	18,34,233		

Facility of Collection.

Returning now to the ryotwari demand of the year, calculated in the manner explained above, we find that the balances of current demand due at the end of each year have been as follows :—

Year.	Demand.	Balance.	Percentage.
	Rs.	Rs.	
1871-72 ...	3,49,85,370	7,16,717	2·04
1872-73 ...	3,58,38,619	7,22,765	2·02
1873-74 ...	3,45,32,905	6,61,229	1·91
1874-75 ...	3,65,54,781	8,23,002	2·25
1875-76 ...	3,46,12,214	7,22,066	2·08

Besides these current balances, there are also considerable arrears outstanding from former years, viz.,

Year.	Outstanding Arrears.		
	Recoverable and doubtful.	Irrecoverable.	Total.
	Rs.	Rs.	Rs.
1872-73 ...	2,70,176	2,11,093	4,81,269
1873-74 ...	3,08,140	1,28,012	4,36,152
1874-75 ...	2,59,894	2,90,036	5,49,930
1875-76 ...	3,26,037	1,90,163	5,16,200

But the irrecoverable arrears consist for the most part of nominal items, such as assessment or water-rate improperly charged, assessments due from lands taken up for public purposes, remissions made after closing the revenue-roll of the year, &c. Excluding these items, and counting that portion only which was irrecoverable by reason of death, desertion, or insolvency of ryots, the outstanding arrears appear as follows :—

Year.	Recoverable and doubtful.	Irrecoverable.	Total.
	Rs.	Rs.	Rs.
1872-73 ...	2,70,176	1,09,120	3,79,296
1873-74 ...	3,08,140	1,03,111	4,11,251
1874-75 ...	2,59,894	82,031	3,41,925
1875-76 ...	3,26,037	1,09,127	4,35,164

These balances look large. But the fact is that the annual collections of current revenue and arrears together usually exceed the current demand of the year, as the following figures will show :—

Year.	Gross collections.	Year.	Gross collections.
	Rs.		Rs.
1871-72 ...	3,51,99,532	1873-74 ...	3,37,89,794
1872-73 ...	3,61,66,642	1874-75 ...	3,69,39,816

Coercive processes.

Madras Act II. of 1864 provides for the recovery of arrears of revenue. Arrears bear interest at 6 per cent. Coercive processes consist of writs of demand, and attachment and sale either of the defaulter's holding, or of his personal

property. They are shewn as follows for the three years:

Year.	Number of ryots served with writs.	Amount of arrears.	Value of property attached.		Value of property sold.	
			Land.	Goods.	Land.	Goods.
		Rs.	Rs.	Rs.	Rs.	Rs.
1872-73 ...	249,124	25,08,606	6,29,916	8,78,799	3,08,592	1,44,197
1873-74 ...	236,995	23,55,998	6,86,827	8,89,724	3,16,759	4,85,360
1874-75 ...	336,266	30,69,475	5,94,723	10,75,363	3,62,882	1,97,096

The number of writs looks enormous. But the writ is merely a notice of default, and the amount of arrears for which writs are annually issued bears a very much smaller ratio (about 6 to 8 per cent.) to the revenue demand of the year than in the North-Western Provinces, for instance. The amount of attachments and sales seems very large, especially in the case of land; but the essence of the ryotwari system is the easy transferability of holdings.

Increase of cultivation and of revenue.

Both the area of cultivation and the revenue from ryotwari lands have largely increased within the last 20 years. The year 1856-57 may be chosen for comparison with the year 1875-76. Neither was a good agricultural year. The Revenue Reports describe 1856-57 as "nearly an average season", and 1875-76 as "not favourable for agriculture". The comparison of occupied area and assessed revenue is as follows* :—

	Acres.	Rs.
1856-57 ...	12,964,668	2,70,66,729
1875-76 ...	18,903,272	3,16,09,510

* Malabar, Canara, and Madras are omitted for both years.

The increase in occupied area is not far short of 50 per cent., and the revenue increase is 17 per cent.

Revenue incidence per acre.

The average revenue incidence per acre upon wet and dry lands separately and together is shown in the subjoined table. The districts are arranged in order of their average rates. Those which have come under settlement are marked with an asterisk.

District.	Average revenue incidence per acre.		
	Dry.	Wet.	Total.
	Rs. As. P.	Rs. As. P.	Rs. As. P.
Tanjore ...	1 8 10	4 13 11	3 12 11
Godavery ...	1 11 0	6 2 9	8 9 8
North Arcot ...	1 6 8	5 11 9	2 11 9
South Arcot* (part)	1 11 2	5 5 9	2 8 0
Chingleput* ...	1 2 6	3 9 11	2 7 0
Vizagapatam ...	1 1 11	5 6 2	2 5 10
Malabar ...	1 8 8	3 0 4	2 4 1
Ganjam* (part) ...	1 3 6	2 13 0	2 3 2
Kistna* ...	1 8 1	6 4 6	2 0 1
Nellore* ...	1 2 7	5 7 0	1 14 6
Tinnevelly* ...	0 12 4	8 9 2	1 12 11
Madura ...	1 4 9	4 8 8	1 12 2
Salem* ...	1 2 1	5 8 11	1 7 5
Trichinopoly* ...	0 15 0	4 2 9	1 6 3
Cuddapah* (part) ...	0 12 9	6 8 8	1 5 0
Kurnool* ...	1 0 3	6 6 6	1 2 6
Coimbatore* (part)	0 14 3	7 5 6	1 2 5
Bellary ...	0 10 6	4 14 3	0 13 10
Nilgiris ...	0 10 11	1 8 0	0 11 4
Whole Province ...	1 1 3	4 8 5	1 11 7

These figures relates to the revenue year ending the 30th June 1878. The average revenue-rates on wet lands are very high, as compared with the valuation of irrigated lands in Upper India; but the general revenue incidence on wet and dry lands together is almost exactly the same as that of Oudh and the North-Western Provinces. The general revenue incidence in Tanjore, Godavery, and North Arcot, exceeding that recorded against any district of Upper India, is explained by the large proportion of the cultivated area of those districts which is irrigated. Everywhere the valuation of wet land exceeds that of dry land by a much greater ratio than in Upper India. The extreme case is in Tinnevelly, where the average revenue-rate on wet land is to that on dry land as eleven to one.

Facility of revision.

With regard to the labour and cost of the next revision of settlement, the subjoined note has been kindly supplied by Mr. R. K. Puckle.

Note on the method of revising a settlement in Madras.

THE peculiarity of the Madras system is that each holding, however small, is recognized as a separate item in the settlement, and is dealt with separately and distinctly in the village accounts; these accounts are annually renewed, and the village register and puttah volume Nos. 4 and 5 of the Manual of Village Accounts are always kept in the *form* of the printed settlement register and of the puttah issued at settlement, the alterations necessitated by changes of name, extension of cultivation, &c., being made from year to year to bring the village register and puttahs of each year to correspond with the actual occupation of that year. Thus the village register and puttah volume of any year, now or hereafter, may be adopted as the future settlement register and settlement puttah volume whenever a revision is requisite; and every item of information that cost so much in the original settlement to collate from the confused records of former years will be found in the village accounts, as now kept, recorded with even greater accuracy than was possible in the original settlement, for the simple reason that every figure will have stood the scrutiny of a series of years, and every original error of entry will have been long since corrected.

2. The exact state of affairs for any particular year, including changes of name

or holding, transfers from wet to dry, from waste to cultivated, and *vice versâ*, are clearly shewn in the village accounts, and all that is needed, therefore, is to determine what the revised rates of assessment shall be, and this can be done by a stroke of the pen, perhaps somewhat in the following manner:

In consideration of the Government right to demand half the value of the net produce of the soil, the Government may think fit to order that the highest commutation-price now used in any group or circle of districts, or, say, throughout the Presidency generally, shall be adopted in the revision as the commutation-price of that circle or of the Presidency. Thus Rs. 126 per garce of 144 imperial bushels, or 7,360lbs., for unhusked rice—the highest rate yet introduced (though below average market prices)—would, if applied to the Chingleput district, raise the existing settlement rate for the conversion of grain into money by 20 per cent. for unhusked rice, and by 13½ per cent. for dry grains. Taking 20 and 13½ per cent. respectively as the equivalent of three annas and two annas in the rupee of assessment, and omitting fractions for simplicity of calculation, the existing revenue-rates will be affected somewhat as under:—

WET.				DRY.			
PRESENT.		POSSIBLE.		PRESENT.		POSSIBLE.	
Class.	Rate.	Class.	Rate.	Class.	Rate.	Class.	Rate.
	Rs. As.		Rs. As.		Rs. As.		Rs. As.
I. ...	7 8	I. ...	9 0	I. ...	4 0	I. ...	4 8
II. ...	6 4	II. ...	7 8	II. ...	3 0	II. ...	3 8
III. ...	5 0	III. ...	6 0	III. ...	2 8	III. ...	3 0
IV. ...	4 0	IV. ...	5 0	IV. ...	2 0	IV. ...	2 4
V. ...	3 8	V. ...	4 0	V. ...	1 8	V. ...	1 12
VI. ...	3 0	VI. ...	3 8	VI. ...	1 4	VI. ...	1 8
VII. ...	2 8	VII. ...	3 0	VII. ...	0 12	VII. ...	1 0
VIII. ...	2 0	VIII. ...	2 8	VIII. ...	0 8	VIII. ...	0 10
				IX. ...	0 6	IX. ...	0 8
				X. ...	0 4	X. ...	0 6

Which will raise the assessment on the area occupied at last settlement from Rs. 11,60,914 to Rs. 13,99,963 for wet, and from Rs. 2,49,662 to Rs. 2,99,913 for dry land, or by a total of Rs. 2,89,300, or, say, three lakhs.

3. Such revised revenue-rates can of course be applied to the holdings of the next 30 years as readily as the revenue-rates now in force. It is merely a matter of account; and if it is impossible in some districts to raise the revenue-rates in this manner, owing to the small difference that exists between the present commutation-price and one of Rs. 126 per garce, it may still be possible to raise the grouping* of any particular tract that has specially benefited by railway or canal extension, or by a new system of irrigation, &c., since the last settlement was made, and this can be done by simply transferring, say, 50 villages from what is now the 1st group to one still higher, 120 villages from the 2nd to the first group, and so on, thereby affecting the assessment of the villages thus transferred to the extent of a single rate throughout, which is the difference between the charge for the same class of land in the first, second, or third group respectively. This difference in the case of wet land is usually one rupee an acre, and in the case of dry land four annas an acre.

* The villages of a district are formed into groups at settlement with reference to soil, situation, irrigation, &c., and are so assessed that the highest rate applies only to the best lands of the first group, the second rate to the more ordinary lands of the first group, as well as to the best lands of the second group, and so on, *e. g.*,—

1st Group.		2nd Group.		3rd Group.	
Taram.	Rate.	Taram.	Rate.	Taram.	Rate.
	Rs. As.		Rs. As.		Rs. As.
1	7 8	2	6 4	3	5 0
2	6 4	3	5 0	4	4 0
3	5 0	4	4 0	5	3 8
4	4 0	5	3 8	6	3 0
5	3 8	6	3 0	7	2 8
6	3 0	7	2 8	8	2 0
7	2 8	8	2 0	8	2 0

4. Thus much applies to the first crop. The assessment of the second crop on wet lands can be as easily dealt with. It is now charged at $\frac{2}{3}$, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, or $\frac{1}{5}$th of the single-crop rates according to district and circumstances. The extension of irrigation might, in a given tract, render it perhaps justifiable to raise the second-crop rates of some first-group villages to a uniform charge of $\frac{1}{2}$, and those of second-group villages to a uniform charge of $\frac{1}{3}$, and so on; and as the $\frac{1}{2}$ or $\frac{1}{3}$ charged would be based on the higher rates arrived at as above for a first crop, the re-adjustment of second-crop charges would result in a further increase of revenue.

5. All this can be done free of charge, supposing always that the nucleus of a settlement department is retained, and the only cost that need be incurred will be the re-printing of settlement registers, and even this is optional.

6. As a rule, the culturable lands of the districts later dealt with have been entirely surveyed in fields, and their demarcation with stone is of the most permanent character; but in the delta districts, in marshy and seaside tracts, where stone was hardly procurable, the necessity of pushing on work in the early days of the settlement induced the adoption of mounds or pegs as boundary marks, and these have long since disappeared. With or without demarcation,

however, every survey field can be traced on the ground, with the aid of map and register; and even the inner holdings A, B, C, &c., which average three to each survey field, and vary in number and size from year to year, can be readily found, as a column is provided in the village register to shew the direction in which B lies to A, C to B, &c.

7. The method in which the Madras settlement has been made, too, facilitates future revision. All anomalies have been cleared up, common lands have been largely divided; a simple table of rates has been introduced; the assessed waste has been laid out in fields; joint puttahs have been divided where needed; and the ryots have been dealt with individually, so that each holding, though it may be only a single cent. of an acre, is separately numbered or lettered, and entered in a separate line in the register and puttah. Each ryot thus pays for what he holds, and for that only. There is no enforced co-partnership, and he is regarded as the absolute proprietor of the area exhibited in his puttah so long as he pays the assessment for it. He is further permitted to sub-divide, transfer, sell, or relinquish his holding, and he can take up any portion of assessed waste on payment of the acreage charge.

REV. SETTLEMENT OFFICE,
MADRAS;
The 18th May 1880.

R. K. PUCKLE,
Acting 1st Member, Board of Revenue,
in charge of Revenue Settlement.

DISTRICT NOTES.

SOUTH ARCOT—(Two taluqs).

Area (*whole district*) 4,873 *sq. miles.*
Population (*do. do.*) ... 1,755,817.

South Arcot Settlement Collection, pages 3, 16.

The Chelumbrum and Manargudi taluqs, which are now merged and form the chief portion of the Chelumbrum taluq of the South Arcot district, are a level rice-growing tract of black soil, watered from the Coleroon anicut built in 1836-37.

Pages 271—273.

The taluqs came into our possession, with the rest of the Carnatic, in 1801. Till 1805, the assessments on wet land were taken in kind, at 45 to 70 per cent. of gross produce, and the dry assessments in cash. A survey was made in 1806, and rates were adopted for four classes of soil in five classes of villages; but triennial and decennial leases succeeded till 1820-21, when the ryotwari settlement was introduced on the rates of 1806, increased by one-third in 1836 for 5th class or dry villages, in consideration of their conversion into wet by the construction of the anicut. But these rates were reduced again 10 per cent. in 1855, and 20 per cent. for the other four classes of villages. The highest rate on garden lands was at the same time reduced to Rs. 7.

These taluqs were the first in the Presidency to come under re-settlement. They differ somewhat in soil-classification from later-settled tracts. Survey began in 1853, and lasted till 1858; and the new assessments were introduced in 1861-62.

Pages 60, 62.

The survey shewed that the occupied area had been over-estimated in the revenue accounts by 4 per cent. The soil percentages were—

	Percentage on total area.
Exceptional	4
Black clay	70
Do. loam	22
Red soil	1·5
Poor soil, sand, and gravel ...	4·5
	100

Pages 60, 282.

* That is, 70 per cent. of the cultivated area in that year was under irrigation.

The irrigation percentage in 1859 was 70;* in 1862, after re-settlement, it was 59, the wet area having actually increased, but less rapidly than the dry area, which had extended nearly 50 per cent.

Pages 63, 64, 148, 155.

The standard crops were paddy for wet, and cholum, cumboo, raggy, and varagu

for dry lands. Experiments with paddy were 300 in number; for dry grains, which occupied a comparatively small area, the number of experiments is not stated, nor do they seem to have been very satisfactory. The grain-values finally adopted were (in Madras measures per acre)—

Soil.	Dry. Cholum.	Cumboo.	Raggy.	Varagu.	Wet. Paddy.
Alluvial ...	432	504	528	.....	1,080
Permanently improved	384	432	432	.....	960
Black soil...	384 to 288	408 to 336	360 to 288	648	840 to 672
Do. loam ...	.....	408 „ 288	384 „ 240	648 to 480	960 „ 672
Red soil ...	.....	336 „ 240	288	600 „ 480	720 „ 480
Inferior and sandy.	.....	240 „ 192	.....	408 „ 312	432 „ 360

These estimates were subject to a deduction of 15 to 30 per cent. on irrigated, and 25 per cent. on dry land. Commutation prices were fixed, in the case of paddy, with regard to the selling price in the whole district from 1809 to 1858 in the months of February and March; and, in the case of dry grains, on the prices of Chelumbrum market for some shorter period. They were as follows:

Page 248.
Page 158.

Pages 66, 67, 76.

	Per garce. Rs. As. P.
Paddy	71 12 8
Cholum	116 10 8
Cumboo, Raggy	93 5 4
Varagu	51 13 8

Cultivation expenses were estimated as follows per acre:

Pages 144, 155.

Soil.	Dry. Cholum. Rs. A. Rs. A.	Cumboo. Rs. A. Rs. A.	Raggy. Rs. A. Rs. A.	Varagu. Rs. A. Rs. A.	Wet. Paddy. Rs. A. Rs. A.
Alluvial	5 0	as for cholum	.....	.....	8 0 ...
Permanently improved	5 0	as for cholum	.....	.....	8 0 ...
Black soil ...	5 0 to 4 8	as for cholum	.....	4 0	7 8 to 7 0
Do. loam	.....	5 0 to 4 0	5 0 to 3 8	4 0 to 3 8	8 0 „ 7 0
Red soil	.....	4 8 „ 3 8	4 0	4 0 „ 3 8	7 0 „ 5 0
Inferior and sandy ...	.....	3 8 ...	.....	3 8 „ 3 0	5 0 „ 4 0

The revenue-rates were an approximation to two-thirds of the net produce, and stood as follows:

Page 251.
Pages 144, 161.

Soil.	Dry. Maximum. Rs. A.	Dry. Minimum. Rs. A.	Wet. Maximum. Rs. A.	Wet. Minimum. Rs. A.
Alluvial ...	3 8	...	8 8	6 8
Permanently improved	3 0	...	7 8	5 8
Black clay...	2 8	1 12	6 8	3 8
Do. loam ...	2 8	1 8	7 8	3 8
Red soil ...	1 12	1 4	5 8	2 8
Inferior and sandy ...	1 0	0 8	3 0	2 0

Page 285.

The new assessments made no materia change in the revenue demand. Thei average incidence per acre was—

Page 282.

Wet.			Dry.			Total.		
Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
5	8	5	1	14	0	3	15	10

Administration Report, 1878-79.

The latest returns show the followin results of the settlement in these tw taluqs :

Old assessment.	Present demand (1877-78).	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,20,605	5,25,717	5,112	0·99	82,611

* Survey ... ... Rs. 49,735
Settlement 32,876

The smallness of the settlement charge is due to the fact that there was no fiel demarcation, and that the survey was mad somewhat roughly by an establishment o very low pay.

GODAVERY.

Area	...	7,109 *sq. miles.*
Population	...	1,620,634.

THE Godavery district is divided into the deltaic portion and the uplands. Most of the delta is irrigated from the works constructed between 1847 and 1853, and subsequently extended. The upland tracts are mostly unirrigated, and contain much jungle and some hills.

Pages 3—5, Central and Eastern Delta Report.

District Memoir.

Western Delta Report, pages 4—17.

This district originally formed part of the Northern Circars, and consisted chiefly of zamindaris, which fell to pieces one after another. According to the principle adopted by the Board of Revenue in 1794, zamindari villages lapsing to direct Government management were leased out to the village headmen on the joint-rent system, under which (in theory) the whole body of cultivators were held jointly and severally responsible for the payment of the entire assessment of the village, as annually fixed, all details being adjusted by the villagers themselves. This was replaced in 1817 by a distribution of the dry land assessment among the ryots annually, or for a term of years, and by the 'sharing system' for wet lands, *i. e.*, the conversion into money of the Government share of the crop, as ascertained either by estimate or by actual measurement and division. The dry land assessments were at the same time engaged for by the villagers jointly, so that this system differed little from that of joint-rents, to which, however, the Board refused to revert in 1830. Nine years later the division of produce was ordered to be discontinued, and the renting of villages was re-introduced. By this time the revenue of the district had begun to decline so rapidly that a Commission was appointed to inquire into the causes. The result was the general adoption of the joint-rent system, pending regular survey and settlement. This was in 1844. The joint-rent system involved the two main principles of joint and several responsibility for the Government demand, and of non-interference of Government officers after the demand had been fixed. Neither principle was fully acted upon, though rules were made in 1854 to ensure their better observance.

The survey began in 1858. Demarcation and classification were completed in 1860-61, and field measurements in 1861-62. Proposals for the western delta were submitted in October 1860, and for the rest of the district in April 1861. The new settlement came into operation in the western delta on the 1st July 1862, and in the rest of the district three years later.

This is one of the districts with a separate water-rate. Land irrigated from

Government sources pays a water-rate of Rs. 4 per acre (originally fixed at Rs. 3, subject to a deduction of 12 annas for baling, and one rupee for imperfect irrigation).

Madras letter No. 114, dated 9th February 1880. Director's para. 14 (Western Delta).

The survey area of the entire district proved to be no less than 35·6 per cent. in excess of the area by the revenue accounts; but this was chiefly due to the inclusion of swamps and unprofitable areas which the old surveys carefully excluded.

Report, paras. 62, 65, 66.

I.—Western Delta.—The soil of the western delta is mostly black clay, composing from 65·64 to 96·37 per cent. of the assessable area of the various taluqs. Black loam and sand similarly range from 8·3 to 3 per cent. Arenaceous soil occupies 19½ per cent. of the area of one taluq only. The standard crops taken were cholum, cumboo, raggy, and black paddy for dry lands, and white paddy for wet lands. Tobacco was taken for the islands, but their aggregate area was inconsiderable. Experiments by the settlement department were 319 in number, and 1,030 more were made by the revenue officials. The grain-values finally adopted were (in Madras measures per acre)—

Paras. 65, 45.

Soil.		Dry. Cholum.	Dry. Cumboo.	Dry. Raggy.	Dry. Black paddy.	Wet. White paddy.
Alluvial		800 to 533	666 to 466	933 to 600	933 to 600	.....
Permanently improved		800 „ 333	666 „ 233	933 „ 400	933 „ 400	1,200 to 666
Black	Clay	733 „ 133	600 „ 133	800 „ 133	866 „ 200	1,066 „ 433
	Loam	600 „ 133	466 „ 133	600 „ 133	666 „ 133	1,200 „ 533
	Sand	.....	433 „ 133	533 „ 166	533 „ 133	933 „ 333
Arenaceous	Loam	.....	400 „ 266	400 „ 266	333 „ 200	733 „ 566
	Sand	.....	266 „ 133	333 „ 200	266 „ 133	533 „ 400
	Heavy sand	.....	200 „ 133	266 „ 100	200 „ 66	466 „ 333

One-sixth was deducted for vicissitudes of season. To obtain commutation prices, the price lists in the *selling months* only were examined as far back as 1230 F. (1820), and the prices finally adopted were—

Para. 67.
Para. 76. Appendix N.
Para. 70.

	Per garce. Rs.
White paddy ...	... 72
Black do. ...	... 60
Cumboo ...	... 60
Raggy ...	... 66
Cholum ...	... 84

Para. 81.

Cultivation expenses were estimated as follows per acre:

Soil.	Dry. Cholum. Rs. A.	Dry. Cumboo. Rs. A.	Dry. Raggy and black paddy. Rs. A.	Wet. Paddy. Rs. A.
Alluvial	4 12 ...	3 8 ...	4 0 ...	...
Permanently improved	4 12 to 4 8	3 8 to 3 4	4 0 to 3 12	5 8 to 5 4
Black — Clay	4 8 „ 4 0	4 0 „ 3 8	4 4 „ 3 12	5 4 „ 4 12
Black — Loam	3 8 „ 3 0	3 4 „ 2 12	3 8 „ 3 0	5 0 „ 4 8
Black — Sand	...	2 4 „ 2 0	3 4 „ 2 12	5 0 „ 4 8
Arenaceous — Loam	...	2 4 „ 2 0	3 8 „ 2 12	5 0 „ 4 12
Arenaceous — Sand	...		3 0 „ 2 12	3 12 „ 3 8
Arenaceous — Heavy sand	...		3 0 ...	3 12 „ 3 8

The revenue-rates approximated to a moiety of the net produce. They were the same for wet and dry lands, the former being assessed also to water-rate. Board's para. 17. Board's paras. 19, 21. Page 267.

Soil.		Maximum. Rs.	As.	Minimum. Rs.	As.
Permanently improved	...	5	0	2	0
Black ... Clay	...	4	0	0	8
Black ... Loam	...	3	0	0	6
Black ... Sand	...	2	4	0	6
Arenaceous Loam	...	2	0	0	12
Arenaceous Sand	...	1	0	0	6
Arenaceous Heavy sand		0	12	0	4

To these rates must be added, for irrigated lands, the water-rate at Rs. 4 an acre. In the islands, which are exceptionally fertile, 23 per cent. of the occupied area was rated at Rs. 20, 3 per cent. at Rs. 12, and 54 per cent. at Rs. 5 per acre; but the whole area, as above noted, was inconsiderable.

II.—Central and Eastern Delta, and upland Taluqs.—Here the soil percentages are— Pages 777, 778.

Alluvial	...	4
Permanently improved	...	1
Black ... Clay	...	49
Black ... Loam	...	9
Black ... Sand	...	1
Total black	...	59
Red ... Clay	...	1
Red ... Loam	...	8
Red ... Sand	...	24
Total red	...	33
Arenaceous ... Loam	...	2
Arenaceous ... Sand	...	1
Arenaceous ... Heavy sand	...	...
Total arenaceous	...	3

Grain-values for arenaceous soils were somewhat higher than in the western delta, and an addition was made to the standard crops by taking horse gram for raggy and black paddy in the red soils. One taluq, extensively under cane, was separately treated. One-fourth was deducted from gross produce in the uplands, and one-sixth elsewhere. Commutation prices were— Pages 66—75.

	Per garce. Rs.
White paddy ...	... 72
Black do. ...	... 60
Raggy ...	... 66
Cumboo ...	... 60
Horse gram ...	... 96

Cultivation expenses were much the same as in the western delta, and the revenue rates corresponded entirely, except in the uplands, where a consolidated wet-rate Pages 989—991.

was imposed. The upland rates originally framed were returned by the local Government for re-consideration, as being in excess of half net produce, and when finally brought down to that standard, they stood as follows:

Soil.		Dry.		Wet.	
		Maximum.	Minimum.	Maximum.	Minimum.
		Rs. A.	Rs. A.	Rs. A.	Rs. A.
Permanently improved		4 8	1 8	7 0	3 0
Black	Clay	3 8	0 4	5 8	1 8
	Loam	2 8	0 4	6 8	2 8
	Sand	2 0	0 6	5 0	1 8
Red	Clay	2 8	1 0	5 0	1 12
	Loam	2 0	0 4	6 0	1 8
	Sand	0 12	0 4	4 8	1 4

besides exceptional rates of Rs. 20 and Rs. 12 on improved lands.

Madras letter No. 144, dated 9th February 1880.

The immediate results of the revision of settlement for the whole district were—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
17,10,402	20,94,142	3,83,740	22·4	6,09,330*

This includes the water-rate. Subsequent extension of cultivation and irrigation has greatly increased the revenue. The collections of 1877-78 were Rs. 24,94,166,† of which Rs. 11,06,226 are water-rate, and Rs. 7,797 second-crop assessments. The second-crop rate is an additional water-tax of Rs. 2 per acre.

The culturable waste in 1875-76 was nearly 34 per cent. of the whole assessable area.

The settlement expires in 1892 and 1896. It is calculated that at the present average rate of increase (½ per cent. per annum) Rs. 1,33,772 more will have been added to the revenue by extension of cultivation. If the water-rate is at the same time raised so as to place the higher wet-rates on a level with those in districts under consolidated wet-rates, the increase should be very considerable. At present the average dry assessment is Rs. 1-11-0, and the average wet assessment, including water-rate, is Rs. 6-2-9 per acre. The average ryot's holding is 10·8 acres, assessed at Rs. 20-7-0. The irrigation percentage is 42.

* Survey ... ... Rs. 2,96,161
Settlement 3,13,169

Revenue Reports.

† This includes the Bhadrachalam taluq, transferred from the Central Provinces since settlement. But the whole ryotwari assessment of the taluq is only Rs. 6,000.

Letter of 9th February 1880.

Revenue Report, 1877-78.

TRICHINOPOLY.

Area	... 3,515 *sq. miles.*
Population	... 1,200,408.

THE district of Trichinopoly is divided into the upland and the lowland taluqs. The latter are irrigated from the Cauvery, the Amaravati, and other smaller streams. The upland taluqs are an undulating plain of black cotton soil, broken by rocks and water-courses, and occasionally by low barren hills.

Selections of 1876, No. 1, pages 2—5.

The first survey of the upland taluqs was made in 1805-06, and the ryotwari system was introduced in 1813-14; but no alteration was made in the existing rates of assessment, which had developed themselves during native rule, and are described as the most complicated that it is possible to conceive, varying not only with the soil, but also with the crop and the condition of the cultivator. Until 1826-27, the annual settlement was made with the headman of the village, leaving the ryots to distribute the demand among themselves. In that year puttahs were given to the ryots for the first time, with the permission to relinquish lands they did not wish to cultivate. This permission was extensively made use of, and when, in 1833-34, the lands of revenue defaulters were first put up for sale, no purchasers could be found to take them.

In the lowland taluqs settlement was made, on annexation, at 50 per cent. of the gross produce. The joint-rent system was tried from 1812-13 to 1821-22, after which the ryotwari system came in, with a permanent reduction of 16 per cent. in the revenue demand.

Further reductions in both wet and dry rates throughout the district were made in 1854-55 and 1855-56. The circumstances of the district were thus described by the Board of Revenue in 1863:—"An inland position; a shallow "and comparatively poor soil; indifferent "irrigation even as regards the Cauvery "irrigated lands; a limited and very fluc- "tuating market, and a barbarous revenue "system, under which the taxation is "based on the crop, and not on the land, "and varies with every change of cultiva- "tion, and with the caste, and even resi- "dence, of the ryot. It is essentially a "poonjah district, nine-tenths of its lands

Page 417.

"being under dry grain cultivation, and "52 per cent. of the culturable area consisting of the poorest clay and gravelly "soils of the Carnatic."*

* These proportions were not exactly borne out by the survey.

Survey began in 1858, and was finished before the close of 1861, but additional cultivation was measured up subsequently. The scheme for settlement was submitted in October 1860, but was not sanctioned till April 1864, and the new assessments were introduced in the revenue year 1864-65.

Page 502.

The classification of soils was as follows:

		Wet.	Dry.
		Per cent.	Per cent.
Permanently improved ...		0·3	4
Black soil...	Clay ...	4·7	7·2
	Loam ...	5	12·1
	Sand ...	4·3	12
Red soil ...	Clay ...	...	...
	Loam ...	1·2	10
	Sand ...	0·5	38·7
		16	84
		100·0	

Pages 596, 597, 601.
Madras Revenue letter No. 144, 9th February 1880.

The cultivated area by the survey was 6½ per cent. in excess of that by the revenue accounts. Waste was 50 per cent. less, the hill tracts having been excluded from survey.

Pages 19, 456.

Grain-values were determined by actual experiment, but the number of experiments is not stated. They stood as follows for dry lands (in Madras measures per acre):

Soil class.		Dry lands.			
		Cholum.	Cumboo.	Raggy.	Varagu.
Permanently improved...		480 to 384	480	576 to 480	.....
Black ...	Clay ...	312 „ 168	384 to 240	408 „ 240	672 to 360
	Loam ...	312 „ 192	480 „ 240	528 „ 240	672 „ 360
	Sand ...	288 „ 168	360 „ 240	288 „ 240	552 „ 360
Red ...	Clay ...	240 „ 192	288 „ 240	288 „ 240	432 „ 360
	Loam ...	312 „ 240	384 „ 288	408 „ 288	672 „ 432
	Sand ...	240 „ 168	288 „ 240	288 „ 240	432 „ 360

Pages 18, 20.

The average for wet lands was 634 Madras measures of paddy; the details are—

Soil class.		Madras measures.
Permanently improved		... 1,080 to 960
Black ...	Clay	... 840 „ 432
	Loam	... 960 „ 576
	Sand	... 720 „ 432
Red ...	Clay	... 600 „ 480
	Loam	... 720 „ 312
	Sand	... 552 „ 312

Page 19.

The dry grain-values were subject to a deduction of 20 per cent. for weather chances.

Commutation prices, calculated on the returns of nearly 60 years, after deductions for cartage and brokerage, stood as follows : Page 69.

Per Madras measure.

	Rs.	As.	P.
Paddy ...	66	10	8
Cholum ...	100	0	0
Cumboo ..	83	5	4
Raggy ...	83	5	4
Varagu ...	50	0	0

Cultivation expenses were estimated as follows per acre: Pages 20, 57, 60.

	From Rs.	As.	P.	To Rs.	As.	P.
Paddy ...	7	8	0	3	0	0
Cholum ...	4	0	7	3	3	10
Cumboo ...	4	2	8	3	0	0
Raggy ...	4	0	7	3	3	10
Varagu ...	4	14	6	3	3	10

The Government share, as directed by the Secretary of State, to whom the question was referred, was taken at "a "moiety of the net produce, subject to a "deduction of 10 per cent. for unprofitable "portions of fields, of which the survey "did not take account, &c." The maximum and minimum rates adopted were— Page 456. Page 509—533.

Soil.	Dry. Maximum. Rs.	As.	Dry. Minimum. Rs.	As.	Wet. Maximum. Rs.	As.	Wet. Minimum. Rs.	As.
Permanently improved ...	3	8	1	12	9	4	5	0
Black ... Clay ...	2	0	0	6	6	8	1	8
Black ... Loam ...	2	12	0	8	7	8	2	0
Black ... Sand ...	1	8	0	6	5	8	1	8
Red ... Clay ...	1	0	0	8	4	8	2	0
Red ... Loam ...	1	12	0	4	6	8	1	0
Red ... Sand ...	1	0	0	4	4	8	1	0

The immediate results of the new assessments, when actually applied, were as follow : Letter of 9th February 1880.

Old assessment. Rs.	New assessment. Rs.	Difference. Rs.	Per-centage.	Cost. Rs.
15,82,074	11,94,018	—3,88,056	24·5	5,85,516*

* Survey ... ... Rs. 2,17,098
Settlement 3,68,418

This large decrease is explained by the remarks of the Board in 1863 :—"The dis- "trict in past years suffered much from in- "undations, drought, pestilence, and mur- "rain, and was further depressed by exces- "sive taxation on the land, to which par- "tial relief was afforded at various times, "and last in 1855-56." The rates were in fact assimilated to those of the neighbouring and flourishing district of Tanjore, similarly situated in the valley of the Cauvery. The subsequent history of Trichinopoly has been one of prosperity, but the extension of cultivation has not made up for the revenue surrendered. Page 417. Letter of 9th February 1880.

Revenue Report.

The revenue collections of 1877-78 were Rs. 14,06,516, with an average wet-rate of Rs. 4-2-10 and dry-rate of Re. 0-15-0. The collections include Rs. 1,06,727 from casual second crop cultivation, besides what has been permanently compounded for at one-third and one-fourth above single-crop rates.

Arable waste is 25 per cent. of the whole assessable area. The present irrigation percentage is 14·3. The average ryot's holding is 6·9 acres, assessed at Rs. 9-9-11. Extension of cultivation is expected to add Rs. 88,499 to the revenue demand by the expiry of the term of settlement. It is also computed that by raising the rates on lands supplied by baling from river channels, and by adopting the Cuddapah commutation price for paddy (Rs. 126 per garce), the revenue can be increased to two or three lakhs above the figures of the year next before settlement (1863). The settlement expires in 1894-95.

KISTNA.

Area	... 8,036 *sq. miles.*
Population	... 1,452,374.

THE Guntoor portion of the Kistna district was ceded by the Nizam in 1788. At that time the revenue was paid by zamindars who were hereditary farmers. This system continued for 12 years, with a fluctuating revenue demand, and no fixed basis of assessment. The permanent settlement introduced in 1801 was made with five zamindars, at two-thirds of the collections from the ryots, which were estimated at half the gross produce. Under this system, here as elsewhere, the ryots were pillaged, and the zamindars ruined themselves. By 1843 the sanads of most of the proprietors had been surrendered on condition of maintenance, and on the 1st April 1846 the estates were finally sold, and bought in for Government at the upset price of Rs. 5,000 each, in default of bidders. The district was then settled on what was indifferently called the mucta or ryotwar system. In its original shape, this more or less resembled the joint-rent system, with the fullest liberty to the ryots to distribute the village assessment over their fields, but it eventually merged into a pure ryotwari settlement. Reduction of rates in 1857 involved an immediate revenue decrease of about 10 per cent. The old rates were numerous and complicated, numbering in one taluq as many as 655 for dry and 138 for garden lands. Deputy Director's paras. 8, 32.

The Palnad was ceded in 1801, and annexed to Guntoor. Village-rents were in force from 1808 to 1820, when a ryotwari settlement was made. Here, also, the rates were reduced in 1857. Director's paras. 6, 8.

In the Masulipatam portion of the district the zamindari system was similarly tried and failed, and was followed at first by direct management and division of the crop by actual measurement, then by "the estimating method of sharing "the crop", and finally by the joint-rent system, which, though not a success, lasted till the present settlement. At that time (1862) an unsuitable revenue system and some local disasters (notably the great famine of 1833) had reduced the country to a very depressed state.

The lowland portions of the district are watered from the Godavery and Kistna anicuts, and pay a separate water-

rate of Rs. 4 per acre. In the uplands, which are tank-watered, a consolidated wet assessment prevails.

Survey began in 1859, and the settlement scheme for Masulipatam was submitted in October 1861, and for Guntoor in 1868, but the new assessments were not introduced till 1866-67 and 1873-74 respectively. The excess of survey area over that of the revenue accounts was 6·3 per cent.

Letter of 9th February 1880.

I.—Masulipatam Division.—The soil percentages are shewn as follows:

Soil.		Percentage.
Alluvial		5
Permanently improved		1
Black	Clay	64
	Loam	11
	Sand	2
	Total black	77
Red	Clay	
	Loam	3
	Sand	1
	Total red	4
Arenaceous	Loam	2
	Sand	8
	Heavy sand	3
	Total arenaceous	13

Madras Rev. Progs., September 1864, pages 2327, 2328.

The standard dry crops were jonna (cholum) and black paddy in the delta, and jonna and sazza in the uplands; the wet crop was white paddy everywhere. Grain-values are shewn below:

Soil.	Dry grains. Maximum.	Dry grains. Minimum.	Paddy. Maximum.	Paddy. Minimum.
Alluvial	600 to	200	1,000 to	600
Permanently improved	600 „	280	1,100 „	600
Black — Clay	500 „	120	800 „	360
Black — Loam	400 „	100	1,000 „	480
Black — Sand	320 „	60	640 „	280
Red — Clay	240 „	180	800 „	600
Red — Loam	180 „	120	700 „	510
Red — Sand	120 „	90	520 „	480
Arenaceous — Loam	320 „	120	640 „	400
Arenaceous — Sand	240 „	80	480 „	280
Arenaceous — Heavy sand	180 „	60	360 „	200

Page 2382.

They were subject to a deduction of one-sixth in the delta, and one-fourth in the uplands, for vicissitudes of season. Cultivation expenses were estimated at Rs. 1-2-6 to Rs. 3-14-6 on dry, and Rs. 4-8-0 to Rs. 7-6-9 per acre on wet lands; and commutation prices, based on the averages of 30 years ending 1859, excluding years of famine, were—

	Per garce. Delta. Rs.	Per garce. Uplands. Rs.
Jonna	100	95
Black paddy	65	...
Sazza	...	70
White paddy	80	90

Pages 2374, 5, 2383, 2371.

The revenue-rates approximated rather to one-third of the gross than to half the net produce, and were considerably higher

than the latter on the poorer soils. They are shewn as follows :

		DRY.		WET.	
		Delta and Upland.		Upland only.	
		Maximum.	Minimum.	Maximum.	Minimum.
		Rs. As.	Rs. As.	Rs. As.	Rs. As.
Alluvial ...	...	3 8	1 8	5 0	...
Permanently improved	...	3 8	1 12	6 0	5 0
Black ... Clay	...	2 8	0 12	4 8	2 8
Black ... Loam	...	2 0	0 8	5 0	3 0
Black ... Sand	...	1 8	0 4	3 8	2 0
Red ... Clay	...	1 4	0 12	4 8	3 8
Red ... Loam	...	0 12	0 8	4 0	3 0
Red ... Sand	...	0 8	0 4	3 0	2 8
Arenaceous Loam	...	1 8	0 8	...	...
Arenaceous Sand		1 0	0 4	...	...
Arenaceous Heavy sand					

II.—Guntoor Division.—Here the soil percentages are— Director's para. 16.

		Per cent.
Alluvial		2
Permanently improved		1
Black ... Clay		68
Black ... Loam		21
Black ... Sand		1
Total ...		90
Red ... Clay. Loam Sand.		2
Total ...		2
Arenaceous ... Loam		1
Arenaceous ... Sand		4
Arenaceous ... Heavy sand.		
Total ...		5

The irrigation percentage was only 6, but was increasing under the influence of the delta canals. It was nearly all in the southern delta. Paras. 11, 12, Director's letter of 30th November 1868, para. 5.

The dry standard crops were jonna and varagu, and the wet crop was white paddy. Experiments were 839 in number, and the grain-values finally adopted stood as follows (Madras measures per garce) : Report, para. 68.

Soil.	Jonna and Varagu.	Paddy.
Alluvial	560 to 340	
Permanently improved ...	560 „ 400	1,200 to 950
Black ... Clay ...	440 „ 280	1,050 „ 725
Black ... Loam ...	360 „ 240	1,100 „ 725
Black ... Sand ...	320 „ 220	900 „ 650
Red ... Clay ...	360 „ 280	900 „ 800
Red ... Loam ...	320 „ 240	800 „ 725
Red ... Sand ...	280 „ 220	725 „ 650
Arenaceous Loam ...	300 „ 280	
Arenaceous Sand ...	280 „ 240	.....
Arenaceous Heavy sand ...	240 „ 220	

Commutation prices were based on a range of 58 years. The Salem period of 20 years ending 1864-65 was rejected, after trial by the Board's orders, as involving an excessive enhancement of revenue demand, and the prices originally proposed were finally adopted, viz.,— Report, para. 22. G. O., paras. 13, 14.

	Per garce. Rs.
Jonna ...	112
Varagu ...	86
Paddy ...	100

Director's paras. 24, 26.

A deduction of one-sixth in first-class, and of one-fourth in second and third class villages, was made for ordinary agricultural vicissitudes. Cultivation expenses per acre were estimated as follows :

Report, para. 83.

Soil.	Dry.	Wet.
	Rs. As. P. Rs. As. P.	Rs. As. P. Rs. As. P.
Alluvial ...	5 5 4 to 4 14 0	.....
Permanently improved ...	5 5 4 „ 4 15 6	12 12 5 to 12 6 5
Black ... Clay ...	5 0 4 „ 4 12 2	12 8 10 „ 12 1 0
Black ... Loam ...	4 13 6 „ 4 11 2	12 10 0 „ 12 1 0
Black ... Sand ...	4 12 8 „ 4 10 8	12 5 2 „ 11 15 1
Red ... Clay ...	4 15 6 „ 4 12 2	12 5 2 „ 12 2 9
Red ... Loam ...	4 12 8 „ 4 11 2	12 2 9 „ 12 1 0
Red ... Sand ...	4 11 2 „ 4 10 8	12 1 0 „ 11 15 1
Arenaceous Loam ...	4 13 6 „ 4 12 2	.....
Arenaceous Sand ...	4 12 8 „ 4 11 2	
Arenaceous Heavy sand	4 11 2 „ 4 10 8	

Report, paras. 87, 88.

The resulting revenue-rates, at half net produce, were as follows for each of the soil classes :

	Dry.		Wet.	
	Maximum. Rs. As.	Minimum. Rs. As.	Maximum. Rs. As.	Minimum. Rs. As.
Alluvial	4 8	1 8	.....	
Permanently improved	4 8	2 0	7 8	5 0
Black ... Clay	3 0	0 12	6 0	2 8
Black ... Loam	2 0	0 8	6 8	2 8
Black ... Sand	1 8	0 4	4 8	1 12
Red ... Clay	1 12	0 12	4 8	3 0
Red ... Loam	1 4	0 8	3 0	2 8
Red ... Sand	0 12	0 4	2 8	1 12
Arenaceous Loam	1 0	0 12	.....	
Arenaceous Sand	0 12	0 8		
Arenaceous Heavy sand ...	0 8	0 4		

For the entire Kistna district the immediate results of the settlement are shewn below :

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
30,00,939	34,69,248	4,68,309	15·6	11,20,899*

* Survey ... ... Rs. 5,15,820
Settlement 6,05,079

Revenue Report.

The 1877-78 revenue collections were Rs. 34,14,442, of which Rs. 7,48,457 were water-rate. This includes second-crop assessments, which are insignificant. The average wet and dry-rates were Rs. 6-4-7 and Rs. 1-8-1 per acre respectively; the former includes water-rate. The average ryot's holding in the subdivision is 12·2 acres, at Rs. 27-4-6. The culturable waste percentage of 1875-76 was 19, and 11 per cent. of the occupied area was irrigated.

By the time the settlement expires, in 1896-97 and 1903-04, it is estimated that four lakhs will have been added to the revenue by extension of cultivation (at ½ per cent. per annum). Five lakhs more may possibly be obtained from certain projected irrigation works.

SALEM.

Area ... 7,483 *sq. miles.*
Population ... 1,966,995.

Settlement Collection, pages 140, 141.
Dykes on Salem, pages 275, 276, 279, 287–290.

PART of the Salem district came into our possession in 1792, and the remainder in 1799. A field survey and assessment were made on ryotwari principles, but were immediately followed by quinquennial leases, on the expiry of which the district was parcelled out into zamindari estates, and sold to the highest bidders. The great majority of these estates, after unscrupulous rack-renting, ultimately reverted to the Government. In 1816, and again in 1818, reductions of assessment were ordered in those portions of the district where, owing to the break-down of the zamindari system, a ryotwari settlement had been made. A more effectual means of relief was the operation of the "cowle rules", enabling ryots to take up, at favourable rates, lands which, on account of over-assessment, had been left uncultivated for ten years. The loss of revenue on this ground was one lakh in 1830. Percentage reductions were also made in 1855 and 1859.

The lowlands are watered by the Cauvery, but not extensively, as the river affects but a small area in this district.

Survey began in 1859, and the settlement scheme was submitted in October 1865, but was not finally sanctioned till September 1869. The new assessments were introduced from 1870-71 to 1873-74.

Page 361.
Pages 44, 111.

Seventy per cent. of the assessable area consists of red sandy soil. Divided into the lower or Carnatic taluqs, and the upper taluqs, or those in and above the eastern Ghauts, the area of the district is classified as follows:

Soil.		Percentage of area	
		Lower taluqs.	Upper taluqs.
Permanently improved	...	2	1
Black ... Clay ...	...	4	...
Black ... Loam	...	7	12
Black ... Sand ...	...	2	8
Total black	...	13	20
Red ... Clay.			
Red ... Loam	...	22	10
Red ... Sand ...	...	63	69
Total red	...	85	79

Page 383.

Pages 46, 113—14.

The survey added 15·3 per cent. to the occupied area as recorded in the revenue accounts. Standard crops were cholum, cumboo, and raggy for dry lands (but horse gram for cholum in the upper taluqs), and white paddy for wet lands. The upper taluq grain-values differed from those of the lower taluqs in the case of cumboo and raggy only. Horse gram is not shewn in the subjoined table, giving the grain-values in Madras measures per acre:

Soil.		Dry.			Wet.
		Cholum, cumboo, and raggy.	Cumboo in upper taluqs.	Raggy in upper taluqs.	White paddy.
Permanently improved	...	672 to 552	.....	624 to 504	1,080 to 960
Black ... Clay	...	408 „ 216	288 to 192	432 „ 240	720 „ 288
Black ... Loam	...	456 „ 264	384 „ 240	480 „ 312	960 „ 360
Black ... Sand	...	336 „ 216	288 „ 192	408 „ 240	720 „ 360
Red ... Loam	...	408 „ 192	288 „ 168	432 „ 216	840 „ 360
Red ... Sand	...	336 „ 192		408 „ 216	720 „ 280

Page 364.

Pages 364, 45, 112.

These values were subject to a deduction, on dry lands only, of 15 per cent., rising to 20 per cent. in the upper taluqs. The grain-values on red sandy soil were subsequently raised. Experiments were few—only 174 in the lower, and 233 in the upper taluqs. Commutation prices, as originally proposed, were based on the price lists from 1821 to 1864, and were as follows, dry and wet grains indifferently:

Pages 367, 7, 63.

	Per garce. Rs. As. P.
Lower taluqs ...	... 83 5 4
Upper do. ...	... 75 0 0

The Government ordered the average prices of 20 years to be taken (1845-1864), and after deducting 18 per cent. on dry, and 12 per cent. on wet grains, for cartage, merchant's profits, &c., the price finally adopted was an all-round one of Rs. 100 per garce.

Pages 155, 159.

Cultivation expenses were altered by the Government with the commutation rate. They are as under—

	Rs. As. P.
Wet ...	... 10 14 0
Dry ...	... 5 12 0

These are for an acre of good black loam, whence rates for the other soils were deduced. They apply equally to upper and lower taluqs. The net produce was subject to a deduction of 10 per cent. before it was halved to give the Government share.

Pages 366—7.

The revenue-rates were the same for both upper and lower taluqs, but the

village grouping in the former was one grade lower. They are shewn below :

Soil.		Dry.		Wet.	
		Maximum.	Minimum.	Maximum.	Minimum.
		Rs. As.	Rs. As.	Rs. As.	Rs. As.
Permanently improved		5 0	1 12	10 8	5 8
Black	Clay	2 8	0 5	7 0	1 4
	Loam	3 0	0 6	9 8	1 8
	Sand	1 12	0 5	7 0	1 8
Red	Loam	2 8	0 4	8 0	1 8
	Sand	1 12	0 4	7 0	1 4

The immediate result of the settlement was as follows : Letter of 9th February 1880.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
17,29,016	17,97,381	68,865	3·9	9,02,435*

* Survey 3,04,313
Settlement 5,98,122
9,02,435
Revenue Reports.

The revenue, however, has not maintained itself at this figure, and the highest collections made in the last five years are those of 1874-75, Rs. 16,69,997 only. The irrigation percentage of that year was 7·7. At present (1877-78) the average dry and wet-rates are Rs. 5-8-11 and Rs. 1-2-1 respectively, and the culturable waste percentage is 10 only. The average ryot's holding is 6½ acres at Rs. 9-9-6. The charge for second crop cultivation has been compounded throughout the entire irrigated area.

The settlement expires in 1900-01 and 1903-04. It is calculated that the occupation of waste will have added two lakhs to the revenue demand by that time, and that 1⅓ lakhs more can be made by raising the commutation price of paddy to the Cuddapah rate. But the first of these assumptions hardly seems to be warranted by the revenue history of the district since settlement. Letter of 9th February 1880.

KURNOOL.

Area ... 7,151 *sq. miles.*
Population ... 914,432.

Deputy Director's Report, paras. 9, 13—24.

KURNOOL Proper lies above the eastern Ghauts, and became an immediate British possession upon the deposition of the jagirdar in 1839. The revenue system then found to be in force was that of renting the villages to the headmen, who distributed the lands and fixed the rates at their pleasure. The consequence was great inequality of assessment, "and "although there was very little liberty in "those days for the ryot to contract his "holding, the authorities were obliged to "allow the relinquishment of much land, "and from 1249 to 1253 F. there was a "steady decrease of the revenue". The demand was excessive as well as unequal. A rough field survey was made between 1841 and 1843, but the Board refused to undertake any general revision of assessment, pending the regular survey, which did not begin till nearly 20 years later. Meanwhile relief was given both by temporary remissions and by annual alteration of the rates of assessment, in the direction both of enhancement and reduction, but with a balance always in favour of the latter. In common with the rest of the Presidency, Kurnool shared the benefit of the Court of Directors' orders of 1851, abolishing the high tax on special products. Prices rose largely from 1843, and brought back prosperity.

Director's Report on Pattikondah, paras. 12, 13.

Deputy Director's Report on Cumbum and Markapur, paras. 77—85.

Director's Report on Koilguntla (with Cuddapah), paras. 12, 13.

The rest of the district was settled on the ryotwari system from 1801 to 1807. Competitive leases were afterwards tried as a substitute in some places, but by 1821-22 the whole tract had again come under the ryotwari settlement, upon the general basis of Sir Thomas Munro's scheme, *i. e.*, a reduction, as compared with the rates prevailing before 1807, of 25 per cent. on dry and wet, and 33 per cent. on garden lands. Some further reductions were made in 1858, and in 1865 and 1869, the latter relating to well-lands, which were brought down to the highest dry-rate of the village, while the reductions of 1858 affected wet and dry lands generally in two taluqs.

Irrigation throughout the district generally is from tanks, *doruvu* wells or water-holes, and small streams. There is no

extensive river system. The Madras Irrigation and Canal Company opened the canal from Kurnool to Cuddapah, throughout its whole length, in 1871-72, but the area watered had risen to only 14,763 acres by 1875-76, and was 90,285 and 50,918 acres respectively in the two exceptional years that followed. These areas are for the Kurnool and Cuddapah districts together, but the bulk of the irrigation is in Kurnool, viz., 75,192 acres in 1876-77, when the Government undertook to pay the water-rate if the crop failed, and 35,099 acres in 1877-78, when no such guarantee was given. The canal-irrigated area is not classed as wet, because the water-rate is paid to the Company, and only the dry-crop assessment to the Government. Lands otherwise irrigated in Kurnool Proper were originally assessed at dry rates *plus* a separate water-cess; but the water-cess is now no longer separately shewn, and the total revenue demand from all the wet lands of the district appears under a single heading.

Irrigation Committee's Report.
Revenue Report, 1877-78.
Do., 1874-75, Kurnool, para. 12.

Survey began in 1859, and settlement in 1861, but the new assessments were not introduced till 1864-65, 1872-73, 1873-74, and 1878-79.

Kurnool Proper.

The soil percentages are as follows:

Director's para. 12.

		Per cent.
Permanently improved	...	0·39
Black soil... Clay	...	51·21
Black soil... Loam	...	30·52
Black soil... Sand	...	7·10
Total black soil	...	88·83
Red soil ... Clay	...	0·15
Red soil ... Loam	...	6·53
Red soil ... Sand	...	4·10
Total red soil	...	10·78

Jonna and aruga were taken for dry, and paddy for wet lands, but paddy was subsequently rejected, and the principle of dry assessment *plus* water-cess was adopted, as mentioned above. Experiments in dry grains appear to have numbered only 132. The grain-values came out as follows (in Madras measures per acre):

Settlement Report, Appendix O_2, O_3.

Report, para. 59.

Paras. 2 and 15 of G. O. No. 1409, dated 6th August 1864.

Soil.		Jonna.	Aruga.
Permanently improved	...	480 to 440	...
Black ... Clay	...	360 „ 120	...
Black ... Loam	...	280 „ 120	...
Black ... Sand	...	200 „ 60	...
Red ... Clay	...	...	320 to 240
Red ... Loam	...	...	240 „ 160
Red ... Sand	...	...	160 „ 80

Paras. 66, 68.

Commutation prices were—

		Per garce. Rs.
Jonna	...	105
Aruga	...	60

Para. 77.
Appendices Q1, Q2.

They were calculated on the averages of the previous 24 years. One-fourth of the gross value was deducted for unprofitable areas and agricultural risks.

Cultivation expenses were estimated as follows per acre :

Soil.		Dry. From	Dry. To
		Rs. As. P.	Rs. As. P.
Permanently improved		5 3 1	4 14 1
Black ...	Clay	4 2 4	1 15 6
	Loam	3 15 11	1 15 9
	Sand	3 0 9	1 8 2
Red ...	Clay	2 7 10	1 14 1
	Loam	1 14 1	1 6 1
	Sand	1 6 1	0 12 0

Para. 79.

The resulting revenue-rates are shown below :

Soil.		Dry. Maximum.	Dry. Minimum.
		Rs. As.	Rs. As.
Permanently improved		3 8	3 0
Black ...	Clay	2 8	0 8
	Loam	1 8	0 8
	Sand	1 0	0 4
Red ...	Clay	1 0	0 12
	Loam	0 12	0 8
	Sand	0 8	0 4

Pattikondah Taluq.

Director's para. 19.

The soil percentages are—

		Per cent.
Black ...	Clay	23
	Loam ...	9
	Sand	2
	Total black soil ...	34
Red ...	Clay	1
	Loam ...	31
	Sand	34
	Total red soil ...	66

Para. 25.
Appendices L, M.

Jonna and paddy were taken for dry and wet lands, experiments were 229 in number for jonna, and 57 for paddy, and the results were the following grain-values (in Madras measures per acre) :

Soil.		Dry (jonna).	Wet (paddy).
Permanently improved		480 to 400	1,200 ...
Black ...	Clay	360 „ 120	1,000 to 400
	Loam	280 „ 120	1,100 „ 600
	Sand	180 „ 80	800 „ 400
Red ...	Clay	220 „ 150	800 „ 600
	Loam	170 „ 100	640 „ 450
	Sand	100 „ 60	450 „ 300

These grain-values were subject to "the "usual deduction of 25 per cent."

Paras. 28, 29.

Commutation prices, based upon the price lists for the entire district during the 20 years ending 1274 F. (1863-64), stood as below, after a deduction of 13½ per cent. for jonna and 10 per cent. for paddy on account of merchant's profits, &c. :

	Per garce. Rs.
Jonna	125
Paddy	120

Cultivation expenses per acre were estimated as follows : Director's Appendices 1 and 2.

Soil.		Dry. Maximum.	Dry. Minimum.	Wet. Maximum.	Wet. Minimum.
		Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
Permanently improved	...	6 11 4	6 5 4	17 4 1	...
Black — Clay	...	4 9 10	2 8 0	15 4 4	5 4 0
Black — Loam	...	4 6 8	2 8 0	16 4 1	7 8 0
Black — Sand	...	1 12 0	1 12 0	10 0 0	5 4 0
Red — Clay	...	3 13 0	2 12 8	10 0 0	7 13 0
Red — Loam	...	2 12 8	1 12 0	7 13 0	5 9 6
Red — Sand	...	1 12 0	1 1 0	5 9 6	3 10 0

The resulting revenue-rates are subjoined : Appendices 3 & 4.

Soil class.		Dry. Maximum. Rs. As.	Dry. Minimum. Rs. As.	Wet. Maximum. Rs. As.	Wet. Minimum. Rs. As.
Permanently improved	...	3 8	2 8	8 0	...
Black — Clay	...	3 0	0 8	6 8	3 0
Black — Loam	...	1 12	0 8	7 0	5 0
Black — Sand	...	1 0	0 4	6 0	3 0
Red — Clay	...	1 4	0 12	6 0	4 8
Red — Loam	...	1 0	0 8	5 0	3 8
Red — Sand	...	0 8	0 4	3 8	2 8

Koilguntla Taluq.

Here the soil percentages are as follows : Report, para. 75.

Soil.		Per cent.
Permanently improved	...	0·86
Black — Clay	...	76·96
Black — Loam	...	15·2
Black — Sand	...	5·17
Red — Clay.		
Red — Loam	...	0·71
Red — Sand	..	1·28

The irrigation percentage was only 2·22. Director's para. 59.

Grain-values, revenue-rates, and all other assessment data were the same as those for the Cuddapah taluq of the Cuddapah district, to which district Koilguntla belonged at the time.

Cumbum and Markapur Taluqs.

Soil percentages are—

		Per cent.	
Permanently improved	...	0·63	
Black soil	...	16·63	Para. 122.
Red do.	...	82·74	

Most of the red soil is loam. The irrigation percentage was only 7½. Board's para. 14.

Jonna was taken as the dry crop on black soil, and half jonna half korra on red soil; for wet lands paddy was the standard crop. Experiments in these three crops were 950 in number, and the grain-values finally adopted stood as follows (in Madras measures per acre): Board's para. 10. Para. 214. Para. 215.

Soil.		Dry. Jonna.	Dry. Korra.	Wet. Paddy.
Permanently improved	...	440 to 240	...	1,300 to 900
Black — Clay	...	360 „ 100	...	1,050 „ 350
Black — Loam	...	300 „ 100	...	1,200 „ 600
Black — Sand	...	240 „ 80	...	750 „ 300
Red — Clay	...	280 „ 120	280 to 120	900 „ 350
Red — Loam	...	240 „ 80	250 „ 80	900 „ 350
Red — Sand	...	200 „ 80	220 „ 80	750 „ 300

These grain-values were subject to the usual deduction for unprofitable areas and vicissitudes of season.

Board's para. 11.
Paras. 221, 228.

Commutation prices, determined as in Pattikonda, were (per Madras garce)—

	Rs.
Jonna	125
Korra	90
Paddy	120

Para. 231.

Cultivation expenses are not shewn, except for the best dry black clay, Rs. 4-8-6; judging from which, they cannot differ much from those adopted in Pattikonda.

Mr. Puckle's para. 13.

The resulting revenue-rates were as shewn below:

Soil.		Dry. Maximum.	Dry. Minimum.	Wet. Maximum.	Wet. Minimum.
		Rs. As.	Rs. As.	Rs. As.	Rs. As.
Permanently improved	...	3 8	1 8	...	...
Black ... Clay	...	3 0	0 8	7 8	2 8
Black ... Loam	...	2 4	0 8	9 8	4 8
Black ... Sand	...	1 8	0 6	5 8	2 8
Red ... Clay	...	1 8	0 8	6 8	2 8
Red ... Loam	...	1 4	0 6	6 8	2 8
Red ... Sand	...	1 0	0 4	5 8	2 8

Letter of 9th February 1880.

For the entire district the immediate results of settlement were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,87,123	13,27,500	40,377	3·1	13,50,754*

	Rs.
* Survey	8,15,501
Settlement	5,35,253

Revenue Report.

Survey areas were 9·3 per cent. in excess of the occupied area by the revenue accounts. The revenue collections of 1874-75 (before the famine) were Rs. 13,05,076. In 1877-78, after the introduction of the new settlement into the Cumbum and Markapur taluqs, the collections were Rs. 9,87,330 only, but the full assessment was Rs. 12,78,408, though famine losses had diminished the cultivated area by no less than one-fourth since 1874-75. The average ryot's holding remained much the same, viz., 14·3 acres, assessed at Rs. 14-5-5. Second-crop cultivation has not been compounded for, and is not extensive; only Rs. 24,319 were realised on this account in 1877-78. The irrigation percentage is only 2·2, exclusive of canal-watered lands (3 per cent. of the cultivated area of 1877-78). The average wet and dry-rates are Rs. 6-5-6 and Re. 0-15-2 respectively. Culturable waste occupies 40 per cent. of the assessable area.

By the time the settlement expires (1895 to 1904), it is calculated that two lakhs will have been added by extension of cultivation. The gain by changing the commutation price of paddy will be inconsiderable.

NELLORE.

Area	...	8,462 *sq. miles.*
Population	...	1,376,811.

THE taluqs composing the Nellore district were ceded in 1801. A ryotwari settlement was made at 55 per cent. of the gross produce, and lasted till 1807-08, when it broke down under the pressure of bad seasons, and the village-rent system was introduced. This, again, was abandoned in 1821-22, and the ryotwari system was reverted to, and has continued ever since. About 1854 the highest rate on garden lands was reduced to Rs. 8, and commutation prices were lowered by 2 and 3 annas in the rupee. In 1857-58 the highest wet-rate was reduced to Rs. 9-9-8, and the lower rates were modified in proportion. These changes amounted to a relinquishment of 14 per cent. of the revenue demand upon wet, and 6¼ per cent. of that upon dry lands. In 1865-66, garden lands not receiving Government water were classed as dry, involving a further surrender of half a lakh. The result of all these changes in the mode and incidence of assessment was great inequality in the pressure of the revenue demand.

Madras Rev. Progs., 6th March 1878, pages 445, 446, 582—585, 669.

Four rivers of the district are used for irrigation. The chief of these is the Pennair, a river having a catchment basin of about 20,000 square miles, of uncertain supply, and subject to considerable floods. An anicut was built across it between 1855 and 1860. By means of this work, water is diverted into two old native channels recently improved and extended, and these supply a great series of tanks. The irrigated tract is the eastern portion of the district, extending to the sea. Jungle and low hills are the principal features of the western taluqs.

Report of the Committee appointed 28th July 1879, Chapter I.

Survey began in 1861. It added 16½ per cent. to the recorded occupied area. The scheme for the principal division was submitted in December 1870, and that for the sub-division in May 1872; and settlement was actually made in 1873-74 and 1874-75.

Director's paras. 12, 18.

I.—Principal Division.—The soil percentages are as follows :

		Per cent.
Black soil ...	Clay	16
	Loam	30
	Sand	12
	Total black soil ...	58
Red soil ...	Clay	
	Loam	26
	Sand	10
	Total red soil ...	36
Arenaceous ...	Loam	
	Sand	3
	Heavy sand ...	3
	Total arenaceous ...	6

Director's paras. 22, 23.

Jonna and aruga were taken for dry, and paddy (both white and black) for wet lands. Experiments extended over seven years, and were exceptionally numerous—2,771 for jonna, 425 for aruga, and 2,230 for paddy. Grain-values, as finally fixed, were as follow (in Madras measures per acre) :

Deputy Director's para. 47.

Director's paras. 29, 32.

Soil.		Jonna.	Aruga.	Paddy.
Permanently improved		350 to 250	600 to 412	1,025 to 850
Black	Clay	300 „ 125	500 „ 175	840 „ 550
	Loam	250 „ 116	400 „ 175	900 „ 650
	Sand	166 „ 80	300 „ 112	775 „ 500
Red	Clay	190 „ 140	312 „ 225	775 „ 650
	Loam	212 „ 96	325 „ 150	840 „ 625
	Sand	166 „ 80	275 „ 112	770 „ 500
Arenaceous	Loam	.....	.....	750 „ 650
	Sand	.....	.....	650 „ 600
	Heavy sand	.....	.....	625 „ 500

Para. 36.

Board's para. 16.

One-sixth was deducted on dry lands, and on wet lands 5, 10, 13½, or 20 per cent., according to the class of irrigation. Commutation prices were calculated on the Salem period of 20 years ending 1864-65, with a deduction of 10 per cent. for the difference between retail and wholesale prices. They are, per garce —

	Rs.
Jonna	129
Aruga	64
Paddy	107

Director's paras. 40, 41.

Cultivation expenses are shewn below :

Soil.		Dry.		Wet.	
		Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
Permanently improved		... 3 11 1	to 2 2 4	10 8 3	.....
Black soil ...	Clay	... 4 3 4	„ 1 14 8	10 8 3	to 9 14 9
	Loam	... 3 9 3	„ 1 11 11	10 8 3	„ 10 0 7
	Sand	... 3 5 5	„ 1 4 10	10 6 5	„ 9 9 7
Red soil ...	Clay	... 3 9 1	„ 1 14 5	10 6 5	„ 10 0 7
	Loam	... 3 3 7	„ 1 5 4	10 5 6	„ 9 14 9
	Sand	... 2 11 3	„ 1 4 4	10 4 6	„ 9 9 7
Arenaceous (aruga only in dry lands).	Loam	... 1 10 8	„ 1 10 3	9 15 1	„ 9 10 3
	Sand	... 1 8 7	„ 1 7 6	9 10 3	„ 9 8 4
	Heavy sand	1 6 7	.....	9 8 4	„ 9 8 2

The maximum expenses for dry land relate in every case to jonna, and the minimum to aruga—a much more cheaply cultivated grain.

The maximum and minimum revenue-rates were— Pages 552, 553, 622, 624. G. O. No. 1333, 16th October 1873. G. O. No. 442, 20th March 1876.

		Dry.		Wet.	
		Maximum.	Minimum.	Maximum.	Minimum.
		Rs. As.	Rs. As.	Rs. As.	Rs. As.
Permanently improved		4 0	2 8	10 8 to	6 0
Black	Clay	3 0	0 10	9 8 „	8 0
	Loam	2 4	0 10	8 0 „	3 8
	Sand	1 4	0 4	6 8 „	2 0
Red	Clay	1 8	0 12	6 8 „	3 8
	Loam	2 0	0 8	7 8 „	3 8
	Sand	1 8	0 4	6 8 „	2 0
Arenaceous	Loam	1 4	0 12	6 8 „	4 0
	Sand	1 0	0 8	5 4 „	3 8
	Heavy sand	0 12	0 4	4 12 „	2 0

II.—Sub-Division.—Here the soil percentages are— Director's para. 11.

		Per cent.
Black soil	Clay	32
	Loam	28
	Sand	9
	Total black soil	69
Red soil	Clay	
	Loam	15
	Sand	13
	Total red soil	28
Arenaceous	Loam	
	Sand	2
	Heavy sand	1
	Total arenaceous	3

The standard grains were the same as for the principal division, except in the northern portion, where pedda jonna, varagu and sazza were the dry crops taken. Experiments were 2,636 in number, and the grain-values ultimately adopted were (in Madras measures per acre)— Report, para. 9. Director's para. 24. Para. 27. Report, paras. 45—54.

		Dry.					Wet.
Soil.		Jonna.	Pedda jonna.	Sazza.	Aruga.	Varagu.	Paddy.
Permanently improved		380 to 275	375 to 275	Same as pedda jonna.	650 to 450	575 to 425	1,000 to 850
Black	Clay	340 „ 133	325 „ 105		550 „ 200	500 „ 210	800 „ 550
	Loam	280 „ 125	250 „ 105		425 „ 200	425 „ 200	850 „ 650
	Sand	185 „ 90	175 „ 75		325 „ 120	300 „ 140	750 „ 500
Red	Clay.						
	Loam	212 to 105	175 to 95	Same as pedda jonna.	325 to 160	300 „ 160	800 to 625
	Sand	166 „ 90	140 „ 70		275 „ 120	250 „ 120	725 „ 500
Arenaceous	Loam	...	...	120 to 100	250 „ 225	200 „ 175	725 „ 650
	Sand	...	...	100 „ 80	225 „ 175	175 „ 150	650 „ 600
	Heavy sand	...	...	80 „ 60	175 „ 120	150 „ 100	600 „ 500

Deductions were made in the same manner as in the principal division. Commutation prices were the same, varagu and sazza being rated like paddy. Cultivation expenses for pedda jonna and sazza were much the same, sazza, however, being on Director's paras. 30, 31. Para. 24.

Paras. 36, 37.

the whole more inexpensively cultivated; for varagu they were considerably higher. The cultivation expenses for wet land were the same as in the principal division; those for dry lands are subjoined:

Soil.		Varagu. Maximum.	Varagu. Minimum.	Pedda Jonna and Sazza. Maximum.	Pedda Jonna and Sazza. Minimum.	
		Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	
Permanently improved		5 3 2	.....	2 14 1	2 3 10	
Black	Clay	5 3 11	3 10 10	2 14 7	1 10 3	
	Loam	4 11 11	3 7 11	2 10 5	1 9 3	
	Sand	4 0 10	2 15 3	2 6 9	1 6 10	
Red	Loam	3 8 7	2 12 8	2 1 2	1 4 10	
	Sand	3 5 1	2 8 0	1 13 4	1 3 5	
Arenaceous	Loamy	2 6 1	2 4 11	1 6 9	1 6 3	For sazza only.
	Sand	2 4 6	2 1 8	1 6 3	1 4 8	For sazza only.
	Heavy sand	2 1 0	2 0 4	1 4 6	1 3 8	For sazza only.

Para. 39.

The variety of dry crops taken as standards made the calculation of revenue-rates unusually intricate. It was necessary to assign assumed proportions of each crop to each class of soil, with proportionate cultivation expenses, &c. The revenue-rates, based as usual on half the net produce, came out as follows:

Director's para. 44, and Report, para. 106.

Soil.		Wet. Maximum.	Wet. Minimum.	Dry. Maximum.	Dry. Minimum.
		Rs. As.	Rs. As.	Rs. As.	Rs. As.
Permanently improved		10 0	6 0	5 0	3 0
Black	Clay	7 0	2 8	4 0	0 14
	Loam	7 8	3 8	3 0	0 14
	Sand	6 0	2 0	1 12	0 6
Red	Loam	7 0	3 8	2 0	0 12
	Sand	6 0	2 0	1 8	0 6
Arenaceous	Loam	6 0	4 0	1 4	1 0
	Sand	5 0	3 8	1 0	0 12
	Heavy sand	4 8	2 0	0 12	0 4

Letter of 9th February 1880.

For the whole district, the immediate results of settlement were—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
17,10,413	19,17,575	2,07,162	12·1	9,95,356*

* Survey ... ... Rs. 4,19,849
Settlement 5,75,507

Revenue Reports.

The actual collections since settlement, however, have never exceeded Rs. 18,03,412 (including casual second-crop assessments to the amount of Rs. 84,288). These are the figures of 1877-78. The average ryot's holding is 10·3 acres, at Rs. 20-9-2. The irrigation percentage is 20. Culturable waste occupies 30 per cent. of the assessable area. Second-crop cultivation has not been compounded for.

Full settlement rates have not yet been imposed. The present average

wet and dry-rates are Rs. 5-4-10 and Rs. 1-2-8 respectively. In 1875-76 there still remained annual increments to be made to the amount of a lakh and a quarter. It is estimated that a lakh and three quarters more will be gained by extension of cultivation during the term of settlement, and an equal sum at revision, by adopting the Cuddapah commutation price for paddy.

The settlement expires in 1903-04 and 1904-05.

TINNEVELLY.

Area	... 5,176 *sq. miles.*
Population	... 1,693,959.

Director's final report.

A PORTION of the Tinnevelly district is watered by the Tambrapurni and its affluents, fifteen in number. The remainder is divided into the red soil tract at the foot of the hills, the black cotton plain, and the palmyra forest. The latter includes the coast line south of the river, and is 50 miles in length by 5 to 10 in breadth. It is a country of deep red sand, impassable for carts. Water is found in some places, where abundant crops of coarse plantains and other fruits and vegetables are produced. It was estimated that this tract contained five millions of grown and taxable trees, besides seedlings. The former system was one of triennial inspection and assessment of mature trees, in three grades, at different rates for almost every village, the general average being 5 pie per palm. The plan adopted at settlement was to take the existing tree-tax on each field and turn it into the nearest round figure, adding a charge for seedlings at the rate of 25 an anna, the sum being the assessment of the field for the whole settlement term of 30 years.

The district came under British rule in 1801. Till 1807 it was held on the *amani* system, *i. e.*, the crop was grown and divided under the immediate supervision of the revenue officers, and the Government share (one-half) was taken in kind. Triennial leases followed, and then decennial leases, to the villagers or to farmers. From 1822 to 1859 the ryotwari system prevailed, with commutation prices annually varying, but always adjusted with reference to the standard prices framed on the first introduction of the system. Subsequently these original standard prices were adopted as permanent commutation prices, and applied to fixed grain-values, without distinction of soils, except such as was made by the people themselves, in distributing the lump assessment of the village.

Demarcation began in 1862, the survey was completed in 1872, and settlement (which was partly effected by the Collector) took place from 1873 to 1878. The area recorded as occupied was increased 6·9 per cent. by the survey.

Grain-values were calculated for wet lands in the river-irrigated tract only. No calculation was made for dry lands, the

Salem rates being taken as a guide. The rates proposed for the river valley were subsequently extended to the entire district, but only the lower rates of the scale were applied in assessing the palmyra tract. Experiments were 256 in number, and consisted in reaping and threshing patches of half an acre. The standard crop was paddy, and the grain-values adopted were (in Madras measures per acre)—

Black soil	...	Loam, Clay, Sand	... 1,200 to 720 ... 960 „ 480
Red soil	...	Loam	... 1,080 „ 600
		Sand	... 960 „ 480

Commutation prices, which had been calculated from the price lists of 1770—1868, were ordered by the local Government to be revised on the averages of 1845-1864. The resulting prices were found to be too high, and, omitting two famine years, the rate finally adopted was Rs. 108 per garce.

G. O. on scheme, para. 21.

G. O. 6th September 1872. Paras. 4, 13, 14, Mr. Puckle's letter of 31st May 1872.

Cultivation expenses were estimated as follows per acre:

		Wet only. Maximum.	Wet only. Minimum.
		Rs. As.	Rs. As.
Black soil...	Clay	... 13 4	9 4
	Loam	... 15 4	11 4
	Sand	... 13 4	9 4
Red soil ...	Loam	... 14 4	10 4
	Sand	... 13 4	9 4

After deducting 10 per cent. for unprofitable areas, half the net produce formed the basis of the revenue-rates. They were—

Para. 42, original scheme, and para. 49, final report.

Soil.		Dry. Maximum.	Dry. Minimum.	Wet. Maximum.	Wet. Minimum.
		Rs. As.	Rs. As.	Rs. As.	Rs. As.
Permanently improved ...		5 0	2 8	...	...
Black ...	Clay ...	1 8	0 6	9 0	2 0
	Loam ...	2 8	0 8	12 0	3 0
	Sand ...	1 0	0 4	9 0	2 0
Red ...	Loam ...	1 8	0 6	10 8	3 8
	Sand ...	1 0	0 3	9 0	2 0

Second-crop cultivation in this district is extensive, covering about one-half of the irrigated area. Before settlement, about three-fifths of the second-crop area paid double rates, and the remainder paid half as much again as single-crop lands. At the settlement, second-crop cultivation was compounded for at two-thirds to one-fourth in excess of single-crop rates, thus raising the highest wet-rate to Rs. 20.

Para. 72, original scheme.

The immediate results of settlement were as follows:

Letter of 9th February 1880.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
25,16,366	25,04,256	—12,110	0·48	13,93,984*

* Survey ... 6,89,290
Settlement ... 7,04,694

Revenue Report.

The net revenue demand of 1877-78, however, was only Rs. 22,77,292. The average ryot's holding is $8\frac{1}{3}$ acres, assessed at Rs. 14-15-0; the irrigation percentage is 17·2, and less than 5 per cent. of the culturable area is unoccupied. The average dry and wet-rates are shewn as Re. 0-12-4 and Rs. 8-9-2 respectively. The wet-rate is the highest in any district brought under revision of settlement; it includes the charge for second-crop which has been compounded for. There is also a considerable area of casual second-crop cultivation, yielding Rs. 93,368 in 1877-78.

Letter of 9th February 1880.

The settlement expires in 1903, 1904, and 1908. By that time a revenue increase of about half a lakh is expected from extension of cultivation, and nearly three lakhs could be gained by adopting the Cuddapah commutation price for paddy.

CHINGLEPUT.

Area	... 2,753 *sq. miles.*
Population	... 938,184.

Deputy Director's report of 21st October 1878, paras. 5—36.

THE Chingleput district was part of the territories ceded by the Nawab of the Carnatic in 1750 and 1763. It was farmed by the Nawab till 1780, and after having been nearly depopulated by Hyder Ali's invasion, was let out to renters on a nine years' lease, which broke down in 1790, when the lands were made over "in "small allotments on a three years' lease "to the chief inhabitants of each locality." A joint-rent system, with the Government share (in cash) estimated at 43 to 50 per cent. on wet, and 55 per cent. of produce on dry land, lasted from 1794 to 1799. A permanent settlement with 61 zamindars was attempted in 1801, broke down in 1806, and was succeeded by triennial leases as before. The ryotwari system had, however, been partially introduced as early as 1803, and was gradually extended to the entire district. It was based on a survey and classification of the land, estimates of average outturn for ten years, deduction of 20 per cent. for expenses, and assumption of half the remainder as the Government share. The rates varied from Rs. 18-2-10 to Rs. 1-1-2 for wet, and from Rs. 9-4-9 to Re. 0-12-7 for dry land; but the maximum wet-rate was reduced to Rs. 8-5-1 in 1859.

Mirasi rights existed in this district. The mirasidars are the descendants and representatives of the original village settlers. Their primitive tenure consisted in a periodical division of the arable lands of the village. This developed, as usual, into a permanent apportionment of lands according to recognised shares, leaving, however, much waste in common. Until the introduction of the ryotwari system, the mirasidars contrived to keep their villages intact, admitting no strangers except artisans; but this claim to monopoly clashed with the ryotwari system as regards the occupation of waste. The mirasidars impoverished themselves, and hindered the improvement of their villages, in their endeavours to prevent their waste lands from passing into the hands of strangers. At the present settlement the whole question was settled as follows:

(1.) The mirasidars divided their common land between them in proportion to their shares.

(2.) An allotment of permanently unassessed waste land was made to the

village, sufficient to satisfy all reasonable requirements for grazing ground and fire-wood jungle.

(3.) A manorial fee of two annas in the rupee on assessments from non-mirasi occupants was accepted by the mirasidars as an equivalent for their manorial rights. There is no legal means of recovering this fee, but no difficulty was expected in making it a customary payment.

The soil of the district is generally inferior. Irrigation is carried on from a system of 3,000 tanks and channels, fed by small rivers, and watering about 330,000 acres. The largest tank is the Chambrambakam, with an irrigated area of over 12,000 acres.

Survey began towards the close of 1866, and the new assessments were introduced into the various taluqs from 1875-76 to 1878-79.

Director's Report, para. 73.

I.—Principal Division.—The soils of this portion of the district are in the following proportions :

Soil class.			Percentage on total assessable area.	
Permanently improved		...	Inconsiderable (0·3)	
Black soil	Clay	...	7	12
	Loam	...	5	
	Sand	...	inconsiderable	
Red	Clay	...	5	84
	Loam	...	32	
	Sand	...	47	
Arenaceous	Loam	...	1	4
	Sand	...	1	
	Heavy sand	...	2	

Para. 75.

The arenaceous series embraces the cultivated lands along the sea-board.

Paras. 84, 86, 8.

The number of experiments for grain-values was 126 with dry, and 3,184 with wet crops, and the values adopted were (in Madras measures per acre)—

Soil.		Dry. Raggy.	Dry. Varagu.	Wet. Paddy.
Permanently improved		480	600 to 504	.....
Black	Clay	320 to 156	440 „ 276	720 to 390
	Loam	384 „ 186	504 „ 306	840 „ 460
	Sand	256 „ 126	376 „ 246	600 „ 320
Red	Clay	256 „ 126	376 „ 246	600 „ 320
	Loam	320 „ 156	440 „ 276	720 „ 390
	Sand	256 „ 126	376 „ 246	600 „ 320
Arenaceous	Loam	256 „ 156	376 „ 276	600 „ 390
	Sand	226 „ 156	346 „ 276	530 „ 320
	Heavy sand	186 „ 126	306 „ 246	460 „ 320

Para. 89.

These values were subject to a deduction of one-fourth for dry and one-sixth for wet lands. The dry standards were taken half in raggy and half in varagu. Com-

Para. 81.

mutation prices were calculated from the

Para. 91.

averages of the 20 years 1846-1865, less a deduction of 12½ per cent. for cartage and merchant's profits, and were as follows :

	Per garce. Rs.
Paddy ...	... 105
Raggy ...	... 142
Varagu ...	... 89

Cultivation expenses were estimated as below :

App. J. I. and J. II.

Soil class.			Wet. Rs. As.		Wet. Rs. As.	Dry. Rs. As.		Dry. Rs. As.
Permanently improved			...			6 0	to	5 8
Black	...	Clay	9 12	to	5 8	5 0	„	3 14
		Loam	11 0	„	6 8	5 8	„	4 2
		Sand	8 8	„	4 8	4 10	„	3 10
Red	...	Clay	8 8	„	4 8	4 10	„	3 10
		Loam	9 12	„	5 8	5 0	„	3 14
		Sand	8 8	„	4 8	4 10	„	3 10
Arenaceous		Clay	8 8	„	5 8	4 10	„	3 14
		Loam	7 8	„	4 8	4 6	„	3 14
		Sand	6 8	„	4 8	4 2	„	3 10

The Government demand was half the net produce. Maximum and minimum rates were—

Para. 117.

Paras. 103, 101.

Soil.			Wet. Maximum. Rs. As.	Wet. Minimum. Rs. As.	Dry. Maximum. Rs. As.	Dry. Minimum. Rs. As.
Permanently improved			...		4 0	2 0
Black	...	Clay	6 4	2 0	2 8	0 6
		Loam	7 8	2 8	3 0	0 8
		Sand	5 0		2 0	0 4
Red	...	Clay	5 0		2 0	0 4
		Loam	6 4		2 8	0 6
		Sand	5 0	2 0	2 0	0 4
Arenaceous		Loam	5 0		2 0	0 6
		Sand	4 0		1 8	0 6
		Heavy sand	3 8		1 4	0 4

II.—The rest of the district was settled on the same data as to grain-values, commutation prices, cultivation expenses, and revenue-rates.

The soil percentages in the Conjeveram and Chingleput taluqs were—

Para. 40.

			Per cent.	
Black	...	Clay	... 9	38
		Loam	... 22	
		Sand	... 7	
Red	...	Clay	... 2	59
		Loam	... 29	
		Sand	... 28	
Arenaceous	...	Loam	... 1	3
		Sand	... 2	
		Heavy sand	... 0	

In the last remaining taluq (Madhuratankam) the soil percentages are given as—

Mr. Arundel's report, para. 37.

Black	...	Clay	... 8	52
		Loam	... 37	
		Sand	... 7	
Red	...	Clay	... 0	48
		Loam	... 17	
		Sand	... 31	

For the entire district the immediate results of the settlement were as follows :

Letter of 9th February 1880. Madras Revenue Progs., No. 1719, 18th August 1879.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
13,58,384	14,10,580	52,116	3·8	12,53,141*

* Survey 8,34,065
Settlement ... 4,19,076
12,53,141

The increase of recorded occupied area by the survey was 11·3 per cent. The average ryot's holding before the

famine was 8·7 acres, assessed at Rs. 22-10-6 (1874-75). At present (1877-78) it is 8 acres at Rs. 20-15-5. Wet and dry average-rates are Rs. 3-9-11 and Rs. 1-2-6; but the new assessments have not yet been completely introduced. The irrigation percentage is 58. Culturable waste is 42 per cent. of the whole assessable area.

Second-crop has partly been compounded for at one-half to one-fourth in addition to single-crop rates; there is also a large casual area of this kind of cultivation.

Letter of 9th February 1880.

The settlement expires in 1908-09. It is estimated that a lakh will have been added by that time, by extension of cultivation, and that two lakhs more can be gained a revision by adopting the Cuddapah commutation price for paddy.

CUDDAPAH.

Area ... 8,367 *sq. miles.*
Population ... 1,351,194.

CUDDAPAH was one of the ceded districts, and was under Sir T. Munro's ryotwari settlement from 1801 to the completion of the survey in 1807. In 1808, village rents on triennial leases were adopted, and were exchanged for decennial leases in 1811. The results were arrears of revenue amounting in 1820 to three lakhs and a quarter, while many of the renters were in jail. The ryotwari settlement was then again resorted to, upon rates 25 per cent. lower than those of 1807 on wet and dry land, and 33 per cent. lower on garden land. Since then, the principal measures of relief have been (1) remissions, (2) separate assessment (in 1832) of second-crop at 50 per cent. in excess of single crop, and (3) reduction of well-lands to the highest dry-rate in 1868.

Deputy Director's Report on four taluqs, paras. 37—50.

The history is the same for the rest of the district.

Irrigation in the principal or north-eastern division of the district is from tanks (581), wells (25,389), and river and spring channels (1,066). There are 24 small anicuts, but no general system of river irrigation. The sub-division gets its water chiefly from tanks, to the number of no less than 4,194, of which 1,314 belong to the Government. They occupy almost every spot adapted for a reservoir, and are capable of storing much more water than there ever is to fill them. A small area is under the Madras Irrigation Company's canal.

District Memoir.

Survey began in 1865, and settlement schemes for various portions of the district were submitted in 1871, 1874, and 1878. The new assessments have not yet been introduced into several taluqs. They came into force in five taluqs in 1874-75.

I.—Taluqs Jamalamadugu, Poddatur, and Cuddapah.—The soil percentages are shewn as follows:

Report, para. 75.

		Per cent.		
		Jamalamadugu.	Poddatur.	Cuddapah.
Permanently improved	...	1·04	0·27	1·20
Black ... Clay	...	62·16	47·66	31·02
Black ... Loam	...	21·13	23·27	21·26
Black ... Sand	...	8·37	5·22	10·44
Total black soil	...	91·66	76·15	62·72
Red ... Clay	...	0·23	1·33	2·98
Red ... Loam	...	2·48	15·85	21·02
Red ... Sand	...	4·60	6·40	12·80
Total red soil	...	7·30	23·58	36·80

The irrigated area was only 4·75 per cent. of the total occupied area.

Para. 76.

Para. 104.

The number of experiments made to obtain grain-values was 467 for jonna, 377 for korra, and 568 for paddy, and the grain-values adopted stood as follows :

Para. 108.

Soil Class.		Dry. Jonna.	Dry. Korra.	Wet. Paddy.
Permanently improved		... 500 to 380	...	1,450 to 1,300
Black	Clay	... 400 „ 100	...	1,200 „ 360
	Loam	... 300 „ 100	...	1,300 „ 600
	Sand	... 220 „ 80	...	900 „ 360
Red	Clay	... 260 „ 180	280 to 200	1,000 „ 600
	Loam	... 220 „ 120	240 „ 140	900 „ 550
	Sand	... 140 „ 80	160 „ 100	600 „ 360

Jonna and korra in equal proportions formed the dry standard. The grain-values were subject to the usual deductions for unprofitable areas and weather chances.

G. O. No. 2681, dated 28th September 1869.

Commutation prices, based on the Salem average, *i. e.*, the average of 1846 to 1865, were—

	Per garce. Rs.
Jonna ...	... 139
Korra ...	... 100
Paddy ...	... 126

Paras. 110, 113.

after deductions on account of carriage, wastage, and merchant's profits, to the extent of 15 per cent. for jonna, 12 for korra, and 10 per cent. for paddy. The commutation price of paddy is the highest yet adopted, and contrasts strikingly with the low prices assumed in the earlier settlements.

Appendix L, M.

Cultivation expenses per acre were estimated as below :

Soil.		Wet. Rs. As. P.	Wet. Rs. As. P.	Dry. Rs. As. P.	Dry. Rs. As. P.
Permanently improved		19 0 0 to	18 6 3	6 2 9 to	6 1 9
Black	Clay	17 5 0 „	5 13 0	4 15 9 „	2 4 2
	Loam	18 4 0 „	7 11 6	3 15 11 „	2 4 2
	Sand	12 8 0 „	5 13 0	3 11 1 „	2 0 4
Red	Clay	13 8 0 „	7 11 6	4 1 7 „	3 1 8
	Loam	12 8 0 „	7 3 10	3 6 2 „	2 5 11
	Sand	7 12 0 „	5 13 0	2 7 5 „	1 14 3

and the revenue-rates deduced from these data varied as follows :

Para. 116

Soil.		Dry. Maximum. Rs. As.	Dry. Minimum. Rs. As.	Wet. Maximum. Rs. As.	Wet. Minimum Rs. As.
Permanently improved		5 0	3 0	12 0	10 0
Black	Clay	4 0	0 8	9 0	2 8
	Loam	3 0	0 8	10 0	5 0
	Sand	1 12	0 4	7 0	2 8
Red	Clay	1 12	1 0	8 0	5 0
	Loam	1 8	0 8	7 0	4 8
	Sand	0 12	0 4	5 0	2 8

These assessment data were used for all the rest of the district, except the four taluqs above the Ghauts.

Para. 20.

II.—Budvail, Sidhout, and Pullampet.—Here the soil percentages are—

Soil.	Per cent.
Permanently improved ...	6
Black ...	... 21
Red ...	... 73

Para. 36.

Loam predominates, especially in the black soil. The irrigation percentage was 18·4.

III.—Palivendlah.—Here the soil percentages are— Para. 16.

Soil.	Per cent.
Permanently improved ...	0·40
Black	76·45
Red	23·15

Clay predominates in the black, and sand in the red soil. The irrigation percentage was only 4·6. Para 14.

IV.—Rayachoti.—The soil here is practically all red loam or sand (79·53 per cent. of the latter per acre). Para. 45.

Sazza and paddy were taken as the staple crops, and the results of 3,403 experiments were grain-values as subjoined (in Madras measures per acre): Paras. 67—70.

Soil.		Sazza. Maximum.	Sazza. Minimum.	Paddy. Maximum.	Paddy. Minimum.
Permanently improved	...	325 to	225	.....	
Black ...	Clay ...	260 „	145	1,025 to	400
	Loam ...	225 „	120	1,150 „	500
	Sand ...	170 „	80	800 „	320
Red	Clay ...	225 „	120	800 „	320
	Loam ...	200 „	100	900 „	360
	Sand ...	170 „	80	800 „	320

Commutation prices on the Salem 20 years' period, less 12 and 10 per cent. respectively, were Rs. 130 per garce for sazza and Rs. 126 for paddy. The maximum cultivation expenses in wet lands were Rs. 16-4-0; the minimum in dry Rs. 3-13-0. Revenue-rates were— Para. 77. Para. 79.

Soil.		Dry. Maximum. Rs. As.	Dry. Minimum. Rs. As.	Wet. Maximum. Rs. As.	Wet. Minimum. Rs. As.
Permanently improved		3 0	1 8	...	...
Black ...	Clay ...	2 0	0 12	8 0	3 0
	Loam ...	1 8	0 8	9 0	3 8
	Sand ...	1 0	0 4	6 0	2 0
Red ...	Clay ...	1 0	0 8	6 0	2 0
	Loam ...	1 4	0 6	7 0	2 8
	Sand ...	1 0	0 4	6 0	2 0

Lands watered by Government (*dasabandham*) wells were at first assessed to special rates, ranging as high as Rs. 10, but were subsequently ordered to be assessed at the highest rate for the soil in which they may be classed.

There remain three other taluqs above the Ghauts to be assessed on the same data as Rayachoti.

For the five taluqs settled in 1874-75, the following results are given: Letter of 9th February 1880. Administration Report, 1878-79.

Old assessment. Rs.	New assessment. Rs.	Difference. Rs.	Per-centage.	Cost. Rs.
7,46,640	7,93,010	46,370	6·2	19,10,513*

* Survey ... Rs. 8,97,380
Settlement ... 10,13,133
But the survey relates to the *entire* district.

In these taluqs the increase of recorded area due to the survey was 3½ per cent.

The irrigation percentage of the whole district is only 9. And the average ryot's holding is 8 acres, assessed at Rs. 10-9-5, or slightly in excess of what it was before the famine. Average wet and dry-rates are Rs. 6-8-8 and Re. 0-12-9 per acre. There is a certain area of permanent double-crop land paying one-third in excess of single-crop rates, besides a considerable extent of casual second-crop cultivation. Revenue Report.

GANJAM (TWO TALUQS).

Area (whole district)... 8,313 *sq. miles.*
Population (do. do.) ... 1,520,088.

Deputy Director's para. 6.
Director's paras. 3, 4.

THESE two taluqs, like the rest of the district of Ganjam, were part of the Northern Circars. The zamindari system was introduced in 1803, and by 1809 several of the estates had begun to come back upon the hands of the Government, and were settled on the sharing system, at half the produce of dry and four-fifths the produce of wet lands, till 1817, when the ryotwari system was gradually introduced.

Deputy Director's para. 11.
Director's para. 78.

The country is an undulating plain rising gently from the sea, and broken by numerous low rocky hills. A portion of it is deltaic. Most of the irrigation is by river channels from the Wamshadara and Nagavali, principally the former. The channels are maintained at Government expense. There is no anicut, but a project for one on the Wamshadara has been submitted.

Survey began in August 1866, and the settlement scheme was submitted in March 1875, but the new assessments did not come in till 1877-78.

The soil percentages are—

Permanently improved	... ...	0·7
Black ... Clay	... ...	30
Black ... Loam	... ...	23
Black ... Sand	... ...	28
Red ... Clay	... ...	0
Red ... Loam	... ...	2
Red ... Sand	... ...	9
Arenaceous ... Loam	... ...	2·3
Arenaceous ... Sandy	... ..	5
		100

Raggy and paddy were taken for wet and dry lands respectively. Experiments were numerous, viz., 1,521 for paddy, and 408 for raggy.

The grain-values are as under—

Soil.		Raggy. Maximum.		Raggy. Minimum.	Paddy. Maximum.		Paddy. Minimum.
Permanently improved	...	420	to	375	.....		.....
Black ... Clay	...	375	,,	225	800	to	500
Black ... Loam	...	325	,,	225	800	,,	600
Black ... Sand	...	250	,,	160	700	,,	420
Red ... Clay	...	.....		.....	.....		.....
Red ... Loam	...	275	,,	225	700		500
Red ... Sand	...	250	,,	160	600	,,	420
Arenaceous ... Loam	...	275	,,	200	700	,,	500
Arenaceous ... Sand	...	250	,,	160	600	,,	420
Arenaceous ... Heavy sand		200	,,	160	500	,,	420

These values were subject to a deduction of 6¼ per cent. in wet, and 25 per cent. in dry lands.

Commutation prices, based on the average of 1855-56 to 1874-75 (exclusive of two famine years), were Rs. 80 per garce for paddy, and Rs. 105 for raggy. Cultivation expenses varied from Rs. 7-10-3 to Rs. 6-7-0 on wet, and from Rs. 4-15-6 to Rs. 2-14-2 on dry lands. The revenue-rates adopted were—

Madras Revenue Proceedings, 17th December 1877.

Soil.		Dry. Maximum.		Dry. Minimum.		Wet. Maximum.		Wet. Minimum.	
		Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.
Permanently improved		4	0	2	0	.....		.....	
Black	Clay	2	8	0	12	5	8	1	4
	Loam	2	0	0	12	5	8	1	8
	Sand	1	4	0	4	4	8		
Red	Loam	1	8	0	12	4	8		
	Sand	1	4	0	4	3	8	1	4
Arenaceous	Loam	1	8	0	8	4	8		
	Sand	1	4	0	4	3	8		
	Heavy sand	0	12	0	4	2	8		

The results of settlement are shewn as follows :

Madras Revenue Proceedings of 27th March and 12th July 1879.
Administration Report of 1878-79.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,82,685	5,30,624	47,939	9·9	7,19,606*

* Survey ... Rs. 5,04,784
Settlement ... 2,14,822
The survey figures relate to the *entire* district.

The survey added 15 per cent. to the recorded occupied area in one taluq, and 12 per cent. in the other. The average ryot's holding is $8\frac{2}{5}$ acres, assessed at Rs. 20. Irrigation percentages are 61 and 50. Arable waste occupies 10 and 15 per cent. of the assessable area of the taluqs. The average wet and dry-rates are—

Taluq.	Wet. Rs.	As.	P.	Dry. Rs.	As.	P.
I. ...	3	13	5	1	3	3
II. ...	2	14	2	1	5	3

Second-crop cultivation is very limited in extent, and has hitherto been untaxed. It will henceforth pay an extra rate of one-fourth the single-crop assessment, whether compounded for or not.

The new assessments were introduced in 1878-79.

There remains but one other taluq to be assessed to complete the district.

COIMBATORE—(Five taluqs).

Area (whole district)... 7,432 *sq. miles.*
Population (do. do.) ... 1,763,274.

Deputy Director's paras. 13, 17.

The ryotwari settlement made in Coimbatore in 1801 and 1802, on one-half the produce of wet, and two-fifths the produce of dry lands, gave an increase of 8 per cent. in the northern, and of 17 per cent. in the southern division, where, however, remissions amounting to 6¾ lakhs had to be made in 1807. Triennial and decennial leases followed; the latter cancelled in 1815, when the ryotwari settlement was re-introduced, differing from the present system only in this, that the ryot had not the right, as he has now, of resigning any particular field and returning the rest of his holding. This restriction was shortly afterwards abolished. Remissions, to the extent of 5¾ lakhs, were made between 1817 and 1865. The ryotwari system has thus been in force for 64 years.

Deputy Director's para. 4.
Irrigation Committee's Report.

The district of Coimbatore is an elevated plain about 900 feet above the sea level, bounded on the north and west by the Western Ghauts, and on the north-east by the Cauvery, which receives three affluents in this district—the Bhawani, Noyal, and Amravati. Irrigation from the Noyal is effected by means of a series of flood tanks, and from the other rivers by canals supplied from permanent or temporary dams. The strips thus watered on either side of the stream are not broad, but their combined areas amount to more than 40,000 acres, yielding a revenue of about 4 lakhs.

Survey began in 1867, and the settlement scheme was submitted in September 1875, and sanctioned on the 6th December 1878 for the whole district. The new assessments have since been introduced into seven taluqs.

Report, page 44.

The survey added 7 per cent. to the occupied area recorded in the revenue accounts.

Soil percentages are—

Deputy Director's page 27.

Black ...	Clay	...	3
	Loam	...	7
	Sand	...	3
Red ...	Loam	...	19
	Sand	...	68
	Total	...	100

The 'permanently improved' dry class was ordered by the local Government not to be used in Coimbatore. After 1,540 experiments with dry grains, and 1,572 with paddy, grain-values were taken as below (Madras measures per acre):

Director's para. 13.
Deputy Director's pages 30, 31.

		Wet.	Dry.	
		Paddy.	Cumboo.	Cholum. Raggy.
Black	Clay	1,200 „ 800	250 to 150	
	Loam	1,200 „ 800	250 „ 150	
	Sand	900 „ 800	200 „ 100	
Red	Loam	1,200 „ 800	225 „ 125	
	Sand	900 „ 800	200 „ 100	

Commutation prices, on the average of 20 years ending 1864, were high—Rs. 126 for paddy and Rs. 119 for dry grains, but modified by 20 per cent. deduction from the grain-values for weather chances and unprofitable areas. Cultivation expenses range from Rs. 3-6-4 to Rs. 2-3-4 for dry, and from Rs. 13-2-10 to Rs. 4-12-10 per acre for wet lands. The revenue-rates adopted were—

Director's paras. 14, 17.

Deputy Director's page 33.

	Soil.	Dry.				Wet.			
		Maximum.		Minimum.		Maximum.		Minimum.	
		Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.
Black	Clay	2	0	0	8	10	0	3	0
	Loam	2	0	0	8	12	0	3	8
	Sand	1	4	0	4	8	0	2	8
Red	Loam	1	8	0	6	10	0	3	0
	Sand	1	4	0	4	8	0	2	8

Madras Revenue Proceedings, 6th December 1878, No. 1964.

These rates were estimated to give a general revenue incidence of one rupee on dry, and about 4 rupees per acre on wet lands. The estimated gain was 4 per cent. on the old assessment of Rs. 14,84,940. Among other questions arising in the course of settlement was that of the assessment of lands watered from old so-called Government wells. These lands had been brought down to the highest dry-rate by express order of the Court of Directors in 1852. It was proposed to place them in the 'permanently-improved' class, like old well-lands in other districts, but the proposition was abandoned, in view of the exceptional treatment hitherto accorded to them.

Pages 38, 44.

Madras Revenue Proceedings, 6th December 1878, No. 1964.

Second-crop lands under the Calingaroyen irrigation channel will be assessed at consolidated rates one-half in excess of single-crop rates, and elsewhere the ryots will have the option of compounding at one-third and one-fourth extra.

The district will be settled on the 'block system'. The rates for the five taluqs apply to the whole of the district.

The cost of the settlement up to the end of 1878-79 was Rs. 13,13,617.*

Administration Report of 1878-79.

* Survey ... ... Rs. 8,28,955
Settlement 4,84,662
The survey figures relate to the *entire* district.

THE RYOTWARI SETTLEMENTS

OF

BOMBAY (including SINDH),

MYSORE,

AND THE

HAIDARABAD ASSIGNED DISTRICTS.

BOMBAY.*

PROVINCIAL SUMMARY.

General characteristics of the Bombay system.

UNDER the Bombay ryotwari settlement, all the arable land of the Presidency is divided into fields, corresponding with actual holdings, but two or three holdings, if below a certain area, may be comprised in one survey field. In arable waste land, the fields are made of a convenient size for occupation. An annual assessment is fixed on every field, and is payable so long as the field is occupied. The occupant, or ryot, is the immediate tenant of the Government. He enjoys fixity of tenure in all the land he holds, conditional on the due payment of the Government demand. His occupancy is heritable and transferable, without other restriction than the requirement to give notice to the authorities. His assessment is fixed, but subject to revision after periods of 30 years. The right of occupancy is not affected by the expiration of a term of settlement, being conditional solely on the payment of the assessment imposed. The occupant is responsible for the full assessment of every part of his holding, whether he cultivates it or not, but he can relieve himself of this responsibility by resigning the whole or any part of it, that is, any entire survey field†, or any share of such a field defined by the survey, termed in the Revenue Code a *recognised share*, in any year, provided notice be given by a fixed date. If there be arable assessed land which is unoccupied, the ryot may enlarge his holding at pleasure by application to the district officials for an entire 'survey number' of such land. He may sublet his lands, and the Government aid him, under certain limitations, in recovering rent from his tenants. The latter, in the absence of any express agreement, are regarded as

* The Bombay and Sindh sections have been revised by Colonel the Honourable W. C. Anderson, Survey and Settlement Commissioner, to whose kindness are due many important corrections and additions, and all the statistics relating to the financial results of the settlements, original and revised, of the various districts.

† Section 3 of the Bombay Revenue Code (B. C. Act V. of 1879) contains these definitions:

'Survey number' means a portion of land of which the area and other particulars are separately entered under an indicative number in the survey records of the village, town, or city in which it is situated, and includes a recognised share of a survey number.

'Recognised share of a survey number' means a subdivision of a survey number separately assessed and registered.

tenants-at-will. On the decease of an occupant, his holding is recorded in the name of the nearest heir, who can claim the assistance of the law in recovering their proportions of the assessment from his co-sharers. Sub-divisions of land by transfer are not permitted below minimum areas; while by inheritance below the same areas the value of the share is recorded, but not the land itself. These areas, as fixed for certain districts, are shewn below:

	Dry-crop. Acres.	Rice. Acres.	Garden. Acres.
Poona and Ahmadnagar	3	$\frac{3}{4}$	$\frac{3}{4}$
Thana ...	3	$\frac{3}{8}$	$\frac{3}{8}$
Ratnagiri ...	2	$\frac{3}{16}$	$\frac{3}{16}$
Khandesh ...	4	...	$\frac{3}{4}$
Belgaum Dharwar Kuladgi ...	6	1	$\frac{3}{4}$
Satara ...	$3\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
North Canara ...	5	$\frac{3}{16}$	$\frac{3}{16}$

History of the Bombay Revenue Survey and Settlement.

The Bombay revenue survey and settlement, if reckoned from its limited and tentative beginnings in 1836, has now been going on for forty-four years. At the time of its institution, the Deccan had been seventeen years under British rule, and was in a state of extreme impoverishment and exhaustion, as a consequence partly of wars and natural calamities, partly of the fall of prices aggravating the pressure of a revenue demand which fraud and corruption had rendered extremely unequal, and partly of a settlement which had been attempted a few years previously. This settlement had cost eight lakhs. It was based on a field survey and elaborate estimates of outturn, the Government share being fixed at 55 per cent. of the net produce. Native agency was too largely trusted, and the results were false classification of soils, incorrect return of areas, erroneous estimates, and general over-assessment of the poorer and under-assessment of the richer land. In 1836 the work was begun over again on new principles. The areas were tested, and re-measured wherever they were much out; produce estimates were abandoned, and lands were re-classified with regard simply to the character and depth of soil in each field; a land register was framed, and assessments were fixed "on purely practical considerations as to the capability "of the land and the general circumstances "of the district."

Official Correspondence on Bombay Surveys and Settlements, Part II., pages 112—115.

Beginnings of the present system.

This new survey and settlement was first introduced experimentally into the Indapur taluqa of the Poona district.

It proved so successful, that its operations were rapidly extended to other districts. A separate survey was organized for the Poona and Ahmadnagar Collectorates, and another, in 1841, for the southern Mahratta country. In 1847 a definite and permanent form was given to the system, and uniformity of practice was ensured in the different surveys, by the publication of a Joint Report prepared by the three Superintendents of Survey. This Report, with the rules contained in it, became the survey and settlement manual for the Deccan districts. It deals with the principal processes of survey and settlement in the order detailed below :

The Joint Report.

Joint Report, paras. 13—18.

(1) *Division of the village lands into fields* is effected by the survey officers. The ordinary minimum field is the area which can be cultivated by a pair of bullocks. This measure varies according to the soil and the kind of culture. The ordinary maximum field is double this area. Every holding which falls within these limits is made a separate field ; larger holdings are divided, and smaller holdings can be clubbed together, but not so as to include in one field different kinds of culture, or lands held on different tenures. Every survey field is shewn on the village map, and is defined by permanent boundaries, such as earthen banks, or stones, or both combined. These are marked on the map, are annually inspected, and are strictly protected by law.

(2) *Village boundaries* are determined in the manner prescribed in Chapter IX. of the Bombay Land-Revenue Code ; where disputed, either a panchayat is appointed, or the survey officer decides, subject to the Survey Commissioner's judgment in appeal.

(3) *The field survey* is on a scale of 8 inches to the mile. Great pains are taken in the construction of the village map. In all the surveys preparatory to the present revision of settlement, the great trigonometrical triangulation has been taken as the basis of survey, and the system of village traversing has been adopted, thus giving the maps, when combined into taluq and district maps, a topographical as well as a revenue value.

Joint Report, paras. 42—48.

(4) *Classification of fields* is made first with reference to the intrinsic qualities of the soil. There are three 'orders' of soil, namely,—

Orders of soil.

Order I.—Of a fine uniform texture, varying in colour from deep black to dark brown.

II.—Of uniform but coarser texture than the preceding, and lighter also in colour, which is generally red.

III.—Of coarse, gravelly, or loose friable texture, and colour varying from light brown to grey.

Classes under each order.

Each 'order' is brought under one of nine classes, according to depth of soil, as follows:

Class.	Relative value of class in annas.	Depth in cubits.		
		I.	II.	III.
1	16	1¾	...	...
2	14	1½	1¾	...
3	12	1¼	1½	...
4	10	1	1¼	...
5	8	¾	1	...
6	6	½	¾	1
7	4½	¼	½	¾
8	3	...	¼	½
9	2	..	...	¼

Faults.

Then there are seven kinds of 'faults', *viz.*,—

(1) Admixture of nodules of limestone.
(2) Admixture of sand.
(3) Sloping surface.
(4) Want of cohesion.
(5) Impermeability to water.
(6) Exposure to scouring.
(7) Excessive moisture from surface springs.

Each fault lowers the soil one class. But in practice, if a fault exists in a minor degree, the amount of reduction may be only the value of half a class or less.

Valuation of fields.

The classifier divides the field into equal compartments, sufficiently numerous to give a fair average valuation of the soil by examination of its depth and quality in each compartment; and then proceeds to class each compartment separately, with reference both to depth and quality of soil, and also to faults (if any) found in it. The anna-valuations of all the compartments, added up and divided by the number of compartments, give the anna-valuation of the whole field. A record of the classification is kept by the classer in his field-book, in the shape of an outline of the field, taken from the village map. The following is an example:

EAST.

7 ¾ ...	4 1¾ .	3 1¾ .	1 1¾ .	2 1¾ .
6 1 ...	5 1 ..	4 1¼ ..	3 1¼ ..	3 1¾ .

The figure in the left-hand lower corner of each compartment indicates the depth of the soil, and the number of dots under it, the 'order' to which the soil belongs. The conventional marks in the right upper corner shew the 'faults,' each degrading the soil one class. The class in which the compartment is finally placed is denoted by the figure in the left hand upper corner. Great care is taken to preserve uniformity in the standard of valuation among the different classing parties, and the work of each classer is subjected to constant testing by the superintending officers. The system is said to be so simple and so easily worked by native subordinates in conformity with certain established principles, that the average difference between the original classification and test does not exceed six or seven pies in a maximum valuation of one rupee. "The classer takes "the class at intervals of about 80 to 100 "yards, and then strikes the average of the "entire field. The classification of a 20-"acre field will not take more than 20 or "25 minutes, and 7 or 8 such fields will be "done in one day by one classer, 13 or 14 "of whom form the establishment of one "Assistant Superintendent, which will get "over, in plain country, from 45,000 to "50,000 acres a month. A proportion "varying from 5 to 15 per cent. is done "over again by the Assistant Superintend-"ent himself, step by step, in the same "manner in which it was done by the "native classer. In addition to the actual "field-work, the classers collect also a great "mass of statistics. This is done in the "evenings, the mornings being devoted "to field-work." Extrinsic circumstances affecting the value of a field but not its fertility, such as distance from the village, are noted by the classer in his field-book.

Facility of classification.

Classification of irrigated lands.

Irrigated lands are of two classes—*garden* and *rice*. Garden lands may be watered from wells or tanks. In the latter case the supply of water and the facilities of manuring are the chief considerations, in addition to the dry valuation of the soil; in the former, the depth of the well, quality of the water (sweet or brackish), rotation of wet and dry cropping, have also to be considered. Rice lands are sometimes wholly, and always to a great extent, dependent upon the rainfall. The points to be considered in their case are the same as in the case of tank garden lands. In estimating the supply of water, two distinct circumstances have to be looked to, *viz.*, the

inherent moisture resulting from the position of the field, and the extraneous aid from tanks, or from channels cut to divert the water from the higher ground into the rice land below. The valuation of all these circumstances, whether in garden or rice lands, is subject to fixed rules, made for the survey of each district with a view to local peculiarities.

Adaptation of Joint Report principles to other parts of the Presidency.

The mode of classification of soils as detailed in the Joint Report is only in use in the Deccan and similar districts, for which alone it was framed or suitable. In the Konkan, where the rainfall is excessive, the depth of soil is a minor item in the estimation of productive capability. In Sind, where all the soil is as a general rule of great depth, the depth of soil ceases to be an element for consideration. Everywhere the point to be attained is an estimation and record of soils in classes according to their locally well-known and evident productive capabilities, both without water and with the aid of the water-supply available and in use. For this purpose rules are framed suited to the local peculiarities of each province, the facts on which the estimation of value is based being recorded in all cases in detail, on the principles of the Joint Report, so as to admit of check in detail by the supervising officer.

Assessment Circles.

Paras. 66, 67.

The formation of assessment circles, i. e., groups of villages or tracts to be assessed at the same maximum rates, is regulated by the three considerations of climate, markets, and husbandry, meaning by the latter term the agricultural skill applied to the lands of fairly cultivated villages. Where these conditions are similar over a tract of country, no account is taken of variations in the actual condition of the cultivators in different parts of it.

Maximum rates.

Paras. 70—76.

Maximum rates for assessment-circles are determined by local inquiry, and by examination of the past revenue and agricultural history of the tract. A separate maximum rate is adopted for each description of culture, whether irrigated, or dry-crop. From the maximum rates the actual field assessments are deduced by means of the anna-valuation described above; for instance, a field valued at 16 annas pays the full maximum rate of the assessment-circle in which it is situated, one valued at 8 annas pays half the rate, at 7 annas, $\frac{7}{16}$ths of the rate, and so on.

Constitution of the Survey and Settlement Department.

As at present constituted, the survey and settlement department is under one Commissioner for the whole Presidency,

Paras. 30—32.

including Sindh. Each particular survey is under the direction of a Superintendent, subordinate to whom are several Assistant Superintendents, having charge of parties of measurers and classers. The operations of measuring and classing are conducted, as a rule, by separate establishments, and generally the classification of a district follows the measurement at an interval of one season. Every detail of the survey operations is closely supervised and tested by the Assistant Superintendents, who are European officers. On the Superintendent devolves, besides the general control of the survey, the duty of fixing the rates of assessment, submitting the proposals relating to them through the Survey Commissioner to Government, and introducing the settlement when sanctioned. The Superintendent submits his proposals regarding the assessment of a taluqa to the Collector, who forwards them with his remarks to the Survey Commissioner, who again forwards the proposals with his observations to the Commissioner of Division, who submits the whole correspondence with his opinion to Government. In many cases, and especially when there is any difficult point involved, the Superintendent consults the Survey Commissioner regarding the details of his proposals before submitting them in formal shape to the Collector. In the introduction of the assessments, the Assistant Collector in charge of the taluqa is usually associated with the Superintendent. It has always been the practice to include no larger area than a single taluqa in a proposal for settlement, and frequently the area is very much smaller, comprising only 10 or 12 villages.

Technical character of the Bombay Survey and Settlement.

A peculiarity of the Bombay settlement system is its purely technical character. In other provinces settlement officers are selected from the civil staff of the province; but in Bombay "there is not at the present moment an "officer in the Civil Service who has done "a day's practical work in the Settlement "Department, or has any real knowledge "of the detail of its operations."* This peculiarity has operated to the prejudice of the Settlement Department.

Settlement Law.

Act I. of 1865 was passed to legalize the survey and settlement after it had been 27 years in operation. That Act was amended by Act IV. of 1868. Both these

* Survey and Settlement Commissioner's No. 232, dated 1st March 1880, to the Bombay Government, paragraph 47.

Acts have now been repealed by the Bombay Land-Revenue Code (Act V. of 1879, B. C.), which embodies the whole of their provisions, and is the existing law of survey and settlement throughout the province.

Zamindari theories.

In Bombay, as in Madras, the question was raised, at the beginning of the settlement, whether the better class of cultivators should not be encouraged by leases of their holdings at reduced rents for the entire settlement term. The idea was abandoned, as tending to deprive the ryot of his freedom to extend or contract his area of cultivation.

Dates of Bombay settlements.

The following table shews the time occupied in making the settlements now current in the various districts, and the dates on which those settlements expire. The time occupied in making the settlements has been reckoned from the beginning of survey, except in the districts marked with an asterisk, where the initial dates are those of the first introduction of the revised assessments, the survey dates not being ascertainable. Revised settlements are distinguished by the letter R.

District.	Duration of settlement operations.		Date of expiry of settlement.
Ahmadábád	1851 to 1862		1886—87
Kaira	1857 „ 1868		1892—93
Surat	1859 „ 1873		1894—95
Broach	1863 „ 1877	}	1900—01
Panch Mahals	1865 „ 1879	}	
Khandesh	1854 „ 1870	}	1884—85
Satára	1855 „ 1864	}	
Belgaum	1849 „ 1857		1878 to 1884
Ahmadnagar	1845 „ 1852		1879 „ 1883
Nasik (R)	*1871 „ 1880	(unfinished)	1902—03†
Dharwar (R)	*1874 „ 1880		1904 to 1910
Baladgi (R)	*1874 „ 1878	(do.)	1904—05†
Poona (R)	*1867 „ 1880	(do.)	1897—98†
Sholapur (R)	*1872 „ 1875	(do.)	1902—03†
Thána	1854 „ 1867		1884—85
Kolába	1854 „ 1867		1886—87
Ratnágiri	1866 „ 1876	(do.)	1894—95
Kanara	1863 „ 1880		1893—94

Duration of settlement operations.

The two districts settled before 1860 (Belgaum and Ahmadnagar) were disposed of much more rapidly than those subsequently taken in hand. Survey and settlement work has steadily tended to become more and more exact, elaborate and tedious. The average duration of settlement operations seems to be about 12 or 14 years.

Term of settlement.

The term of settlement is 30 years in most districts, but where the settlement of a whole district expires at once (as in

† These are the *earliest* dates of expiry of the revised settlements.

Surat, for instance), the latest-settled taluqas have a considerably shorter period. Some backward tracts have been settled for 20 years only. The revised settlements are all for 30 years.

Financial results.

The subjoined table gives a general view of the financial results of Bombay settlements exclusive of Sindh. The 'old assessments' are those of the years before settlement, the 'new assessments' are those of the latest years for which details have been furnished.

	District.	Old assessment. Rs.	New assessment. Rs.	Difference. Rs.	Per-centage.	Cost. Rs.
Guzerat.	Ahmadabad ...	8,12,428	8,08,276	—4,152	0·5	
	Kaira ...	11,70,608	12,71,978	1,01,370	8·7	
	Surat ...	18,48,426	20,70,428	2,22,002	12	36,15,047
	Broach ...	16,74,734	19,64,555	2,89,821	17·3	
	Panch Mahals ...	1,30,935	1,93,572	62,637	47·7	
	Khandesh ...	21,55,117	33,13,167	11,58,050	53·7	19,33,858
The Deccan.	Satara ...	13,25,304	13,81,248	55,944	4·22	6,16,007
	Belgaum ...	10,20,221	12,05,929	1,85,708	18	6,56,758
	Ahmadnagar ...	7,78,985	10,36,384	2,57,399	33	6,36,645
	Nasik ...	5,09,217	7,05,454	1,96,237	38·5	3,51,385
	Dharwar ...	12,42,094	17,66,998	5,24,904	42·3	4,40,096
	Kaladgi ...	5,45,749	6,86,271	1,40,522	25·7	2,72,351
	Poona ...	4,77,373	6,43,021	1,65,648	34·7	3,82,477
	Sholapur ...	5,56,107	7,82,615	2,26,508	40·7	4,35,332
The Concan.	Thana ...	10,16,672	12,85,592	2,68,920	26	8,72,736
	Kolaba ...	6,52,254	7,18,835	66,581	10·2	3,25,848
	Ratnagiri ...	5,83,037	5,97,063	14,026	2·4	12,51,213
	North Canara ...	3,27,505	4,99,336	1,71,831	52·46	4,52,239
	Whole Province ...	1,68,26,766	2,09,30,722	41,03,956	24·39	1,22,41,992

The increase of revenue represents a return of 33⅓ per cent. on the cost of settlement, and the proportion of settlement expenses to one year's revised revenue appears as 58½ per cent.

Corrections to be made.

These calculations, however, are to a certain extent wanting in exactitude. They shew the *present* financial aspect of settlements, but take no account of the Bombay as in the Punjab, the original regular settlements still current should be distinguished from the revised settlements.

I.—Original settlements.

I.—The original settlements are current in the following districts :*

Ahmadabad.	North-Canara.
Kaira.	Satara.
Surat.	Belgaum.
Broach.	Ahmadnagar.
Panch Mahals.	Thana.
Khandesh.	Colaba.
	Ratnagiri.

These again may be divided into two classes, *viz.*, Khandesh and the three Deccan districts, where the original settlements are of old date; and the remaining

* They are current also in parts of other districts, but where the revised settlements have superseded them to a great extent, the latter only have been taken into consideration.

districts, where regular settlements have been introduced for the first time within recent years. The financial statistics for Khandesh and the three Deccan districts are as follows:

(a) *Khandesh and the later-settled Deccan districts.*

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
52,79,627	69,36,728	16,57,101	31·4	38,43,268

But these figures overestimate the increase of revenue, for they compare the old assessments with the realisations of 1877 or 1878, leaving out of account the initial years of the settlement, when the revenue was much less than at present, or was even smaller than the revenue under the old system. It is not possible to calculate exactly what deduction from the 'new assessments' ought to be made on this score; probably it should not be less than 10 per cent., that is, the net gain of revenue has really been about 9½ lakhs a year, and the return on the capital sunk in survey and settlement operations has been some 25 per cent., while that capital itself is equivalent to 60 per cent. of a whole year's average revenue. Perhaps even this calculation is too favourable.

(b) *Guzerat, the Concan, and Canara.*

Next, as regards the Guzerat districts, the Concan, and Canara, we have the following financial statistics:

	Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
	Rs.	Rs.	Rs.		Rs.
Guzerat ...	56,37,131	63,08,809	6,71,678	11·9	36,15,047
Concan ...	22,51,963	26,01,490	3,49,527	15·5	24,49,797
Canara ...	3,27,505	4,99,336	1,71,831	52·46	4,52,239
TOTAL ...	82,16,599	94,09,635	11,93,036	14·5	65,17,083

Here again some deduction should be made on account of the loss of revenue in the early days of the settlement in some places, principally in the district of Ahmadabad, where the settlement entailed an initial loss of 1½ lakh a year. As the figures stand, the increase of revenue in Guzerat, the Concan, and Canara, appears as equivalent to a return of 18·3 per cent. on the capital expended in settlement operations, the latter itself being equal to 69·2 per cent. on the present revenue of a single year. Deducting 3 per cent. from the 'new assessments' these percentages appear as 14 and 71 respectively, and perhaps the latter figures are nearer the truth.

II.—Revised settlements.

II.—The revised settlements, so far as they have gone, are shown in the following table:

District.	Original assessments.	Revised assessments.	Difference.	Per-centage.	Cost.
	Rs.	Rs.	Rs.		Rs.
Sholapur ...	5,56,107	7,82,615	2,26,508	40·7	4,35,332
Poona ...	4,77,373	6,43,021	1,65,648	34·7	3,82,477
Kaladgi ...	5,45,749	6,86,271	1,40,522	25·7	2,72,351
Dharwar ...	12,42,094	17,66,998	5,24,904	42·3	4,40,096
Nasik ...	5,09,217	7,05,454	1,96,237	38·5	3,51,385
Belgaum* ...	1,20,669	1,69,867	49,198	40·8	63,888
Ahmadnagar* ...	3,15,665	4,24,713	1,09,048	34·5	2,24,391
Total ...	37,66,874	51,78,939	14,12,065	37·8	21,69,920

These figures need no modification, for the revised assessments have not varied to any appreciable extent since their imposition. It appears, therefore, that the revision of settlement in the Deccan is an undertaking which returns 65 per cent. on the capital employed, the latter being equivalent to 42 per cent. on the revised assessments of a single year.

Total corrected results.

For the entire province, the corrected financial results appear as below:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
1,68,26,766	1,99,54,760	31,27,994	18·6	1,22,41,992

Relative cost of settlements.

The high cost of the Khandesh, Kolaba, Ratnagiri and Canara settlements, in proportion to the amount of revenue dealt with, is explained by the physical difficulties attending settlement work in those districts. The Ratnagiri settlement has not proved remunerative, while that of Ahmadabad has resulted in a pecuniary loss. Nor has the settlement of Satara been successful as a financial speculation. In all other districts, however, the increase of revenue is sufficient to yield a substantial return on the capital expended; not to mention the benefits conferred by the accurate measurement and demarcation of lands, the determination of rights and interests, and the prevention of future disputes.

Collections and balances of land revenue.

In shewing the collections and balances of land-revenue, the famine years must of course be excluded. Thus the latest year taken will be 1875-76. The subjoined figures of land-revenue demand (1) represent the *net* revenue for collection, after deducting all merely nominal remissions, and (2) include, besides revenue from ryotwari lands, the quit-rents or

* The figures opposite Belgaum and Ahmadnagar in the general table of Bombay settlements represent the results of the *original* settlements only. But the revised taluqas of these districts have been included in this table of revised settlements, for the sake of giving as wide a view as possible of the financial character of revision operations in the Presidency.

privileged estates, as also miscellaneous items. Ryotwari revenue however constitutes nearly 90 per cent. of the whole. The remissions shown are those rendered necessary by death, desertion, or poverty of ryots, or by failure of crops. Merely nominal remissions (as on lands taken up for public purposes) have not been reckoned in. With this explanation the figures stand as follows:

Year.	Demand.	Remissions.	Percentage.	Balance.	Percentage.	Total percentage.
	Rs.	Rs.		Rs.		
1872-73 ...	2,57,76,953	37,858	0·15	1,95,516	0·76	0·91
1873-74 ...	2,56,67,819	83,037	0·32	2,05,794	0·80	1·12
1874-75 ...	2,57,61,925	48,492	0·19	60,882	0·23	0·42
1875-76 ...	2,59,77,912	77,875	0·30	62,111	0·24	0·54

The percentage of remissions might be still further reduced by taking into account such remissions only as are rendered necessary by the death, desertion, or insolvency of ryots. Remissions on account of failure of crops may be regarded as annual adjustments of the revenue demand. But remissions due to death, desertion, and insolvency are separately shown for one year only, viz., 1875-76, when they amounted to Rs. 29,223.

Outstanding balances.

Besides the remissions and balances of the year, the outstanding balances at the end of each year appear as follows:

Year.	Outstanding.	Written off as irrecoverable.	Total.
	Rs.	Rs.	Rs.
1872-73 ...	54,895	34,558	89,453
1873-74 ...	63,764	47,803	1,11,567
1874-75 ...	71,817	28,301	1,00,118
1875-76 ...	83,208	17,191	1,00,399

Coercive Processes.

The system of coercive processes now in force is that established in 1873-74. If an instalment of revenue is not paid within five days of the date on which it becomes due, a notice is issued to the defaulter, for which a fee of 4 annas is levied if the sum due is not above Rs. 4, and 8 annas in other cases. If the instalment is not paid within ten days after issue of notice, distraint is resorted to. Before distraint is stayed, the defaulter is liable to a fine of one-fourth of the instalment due, but this may be remitted in whole or in part. Movable property, exclusive of agricultural implements and stock, is first sold, and, in the last resort, the defaulter's right of occupancy. The number of notices and distraints under these rules before the famine is shewn below. Sindh is excluded.

Administration Report of 1873-74, page 12.

Year.	Number of notices.	Number of distraints.
1873-74 ...	121,293	11,639
1874-75 ...	55,515	3,635
1875-76 ...	59,682	2,635

There are no statistics as to the number of sales or the amount of revenue in respect of which default was made.

Increase of revenue due to revision of settlement and extension of cultivation.

Bombay Revenue Department Resolution No. 6092, 27th October 1875.

In 1875 it was estimated that, excluding Sindh and the Island of Bombay, the increase of land revenue attributable to extension of cultivation and revision of assessments, since 1854-55 exceeded Rs. 61,20,000. This represents an increase, due to these two causes alone, of about 35 per cent. in 20 years. The land-revenue demand of 1873-74, excluding alienated revenue, was Rs. 2,59,85,800 without deduction of remissions. By 1878-79 it had risen to Rs. 2,66,99,932. Thus the total increase due to settlements and extended cultivation in the last 25 years has been nearly 68½ lakhs, or 38 per cent.

Average incidence of assessments.

The average incidence of the revenue demand per acre of ryotwari land, in each of the districts of the Presidency (exclusive of Sindh) for the year 1877-78, is shewn below. The districts are arranged according to their average rates.

District.	Dry crop.			Rice.			Garden.			Total.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Broach ...	4	2	1	4	9	7	6	11	8	4	3	3
Surat ...	2	9	11	7	13	4	9	7	9	3	6	4
Kaira ...	2	9	0	4	12	10	3	15	3	3	6	0
Kanara ...	0	7	5	3	0	9	8	8	11	1	12	5
Ahmadabad ...	1	5	8	4	10	5	5	7	1	1	10	2
Kolaba ...	0	3	1	4	6	5	5	8	0	1	7	8
Panch Mahals ...	1	3	1	2	8	0	1	4	8	1	4	3
Thana ...	0	3	3	3	3	0	5	5	7	1	4	1
Khandesh ...	1	1	4	.....			3	13	3	1	1	11
Dharwar ...	0	14	10	2	3	0	5	8	2	1	0	3
Ratnagiri ...	0	5	10	4	6	7	9	14	2	0	15	9
Satara ...	0	11	5	3	12	0	3	14	5	0	13	7
Belgaum ...	0	10	2	2	13	0	2	15	11	0	12	3
Nasik	0	9	7	4	7	1				0	11	11
Poona	0	7	11	2	0	2				0	8	10
Ahmadnagar ...	0	7	7	1	8	1	2	3	3	0	8	1
Sholapur ...	0	7	1	1	2	10				0	7	5
Kaladgi ...	0	7	9	1	9	9	1	5	8	0	7	1

Rice and garden lands have been bracketed together in those districts where the water-rate is separate from the dry valuation of irrigated land. It was necessary to do this, in order to take the water-rate into account.* The Kaira, Broach, and Surat districts stand out as bearing a heavier all-round assessment per acre than any district of Upper India. The Tanjore and Godavery districts of Madras approach

* The water-rate has been left out of account in the districts of the Northern Division, where it is of inconsiderable amount, and there are no means of distinguishing between its incidence on ryotwari and taluqdari lands.

them in this respect, but no Madras district is as heavily assessed as Broach. Nevertheless, the general acreage rate of the Province is lower than that of either Madras, the North-Western Provinces, or Oudh. It happens to be exactly the same as that of the Punjab. The average is pulled down by the vast tracts of poor dry-crop cultivation in the Central Division, as also by the large areas of hill-side ("warkas"), assessed at a few annas the acre, in Ratnagiri, Thana, and Kolaba, reducing the average dry-crop rate in those districts to a very low figure.

Proportion of revenue demand to gross produce.

It has been estimated that the present land revenue of the Presidency represents one-fifteenth of the value of the gross produce: and that revision of settlement, when extended over the whole province, may possibly raise this proportion to one-eleventh.* There are no statistics for districts.

* Survey and Settlement Commissioner's No. 232, 1st March 1880, para. 16.

Facility of revision.

It is still a moot question how far settlements made on the Bombay system are capable of revision without fresh survey and classification. Six years ago it was believed that re-measurement and re-classification ought not, as a rule, to be necessary. Obvious errors were to be corrected, but it was not expected that it would be found necessary, to any very great extent, to alter and depart from the classification originally fixed, as regards taluqas settled subsequently to the reduction of the system to uniformity by the publication of the Joint Report. As for the earlier-settled taluqas, "the officers employed in the "infancy of the survey worked on varying "scales of valuation, and the systems they "severally adopted were more or less expe-"rimental;" consequently the same exemption from the necessity of re-measurement and re-classification was not to be looked for here. These views of the Bombay Government met with general approval on the part of the Government of India. It was declared to be "obviously most de-"sirable to avoid the annoyance to the peo-"ple and cost to the State of a re-survey "and re-classification, even at a slight loss "to the revenue." Only it appeared necessary that some preliminary inquiry into the value of the old survey should be made, before it was decided to dispense with fresh survey and classification in a taluqa coming up for revision; also that any ryot who considered the old measurement or classification of his land to be faulty should be entitled to claim an investigation. The intention, then, was to apply these principles to all revisions of

Bombay Resolution No. 5739 of the 29th October 1874, Revenue Department.

Expectations of 1874.

Government of India No. 734, 16th September 1875, Revenue Department.

Bombay letter No. 4062, 19th July 1875, Revenue Department.

settlement in taluqas originally settled after 1848; and the Government of Bombay hoped to be able thus to dispense with field establishments (save perhaps to the strength required for reduction of the size of fields in some districts, and for the detailed survey of tracts recently reclaimed from jungle in others), and to effect a yearly saving of five lakhs.

Revised assessments to be simply calculated from prices, &c.

At the same time, occasion was taken to explain that the great object of revision was "to secure an increase in the "State revenue from land, in some proportion to the natural 'unearned increment' "of rent which occurs in all progressive "countries;" and the 'general considerations' which are to regulate re-assessments were described as consisting mainly in better prices of produce, greater facilities of communication, and increasing population causing a greater demand for land. Improvements effected by the occupant since the original classification, though tending to raise the class of the land, would be left out of account under this system, the land remaining classed as before.

Disappointment of these expectations in practice:

(*a*) *Measurements.*

But the actual working of this system has fallen far short of the theory. The Dharwar district has been the principal theatre of experiment, and a saving, in point of time, of 20 to 27 per cent., is all that has hitherto been found practicable. This comparatively poor result is explained by the fact that so large a proportion of the area must be remeasured in any case. Unwieldy survey numbers have to be broken up, changes made by fluvial action have to be noted, and in some cases the obliterated boundaries of fields have to be retraced. But the principal necessity for new survey arises from the modern plan of "making every separately recognized "occupancy into a separate survey number, "separating, as far as possible, inam (revenue-free) from Government land, and "sub-dividing survey numbers of excessive "area into moderate and manageable area". Then, as to re-classification, it has been found that the old classification generally erred in leaving an insufficient interval between the valuation of the better and poorer soils; *i. e.*, the former were rated too low, and the latter much too high. The plan now followed in the Southern Mahratta country is to re-class a small percentage only of the better dry-crop soils, and a larger percentage of the poorer soils, sufficient to enable the settlement officer to judge of the standard of the former classification, and to ascertain how it should be modified in order to

Report on revision of settlement of Dharwar taluqa, para. 4.

Ditto Navalgund (Poona), para. 9.

Report on revision of settlement of Dharwar, para. 10.
Kod taluqa report, paras. 7, 8.

(*b*) *Classification.*

agree with the standard now adopted. If the result of the experiment is unsatisfactory, a wider area is re-classed, or every field in the village is classed over again. For instance, 15 per cent. of the better-class dry soils would be re-classed in the first instance, and 25 per cent. of lower-class soils. "The extent to which re-"classification is unavoidable must depend "entirely on circumstances, and on the "amount of system in the original classifi-"cation. Wherever land is much irrigated "from water over which Government has "rights, re-classification is a necessity. "However good the original classification "was, most material changes will have "occurred in the irrigated area in 30 years. "As regards dry-crop land, the Department "is making satisfactory settlements in the "southern Mahratta country, utilizing the "original classification to a very large ex-"tent. This has not hitherto been done in "the Deccan, and indeed has hardly been "practicable, from uncertainty about the "former work. When the old work is "found to be of a different nature from "that hitherto met with, a change of prac-"tice may be feasible. The accuracy of "the classification is the most important "point in revision, and the difference in "cost between a thorough re-classification "and an examination and appropriation of "the old classification, and thereon making "out fresh assessments, is very small."

Settlement Progress Report, 1879-80.

It would appear, therefore, that no very material saving either of time or money can be expected from the adoption of the old survey and classification. But the more recent original settlements (as those of Guzerat), and all the new revised settlements, ought to be susceptible of much more cheap and rapid revision when their turn comes. The history of the Sindh settlements, however, is a warning against sanguine expectations on this point.

GUZERAT.

GENERAL REMARKS.

Natural features.

THE Guzerat districts of Ahmadabad, Kaira, Surat, and Broach were acquired partly by the treaty of Bassein in 1803, and partly by the treaty of Sirji Anjangaon in 1818. They have several revenue features in common. Excepting the strip of low hill and jungle along their northern and eastern border, the soil is either black soil (which may be either rich loam, or the poor variety known as 'mal'), or a lighter alluvial soil called *goraru*, very fertile when watered, or a mixture of these two in various proportions, coming under the generic name of *besar*. The coast is fringed with unculturable salt marsh, mostly under reclamation. Some portions of the eastern taluqs—Mandvi and Halol—are very unhealthy.

Land Tenures: Taluqdars.

The prevailing land tenure is ryoti; but taluqdari tenures* are common, chiefly in Ahmadabad, and a number of villages in Kaira, Surat, and Broach are held by narwadari or bhagdari tenure. With the taluqdari estates, the present Note has no concern. They may be briefly described as resembling the zamindari estates of Upper India. The taluqdars are proprietors of their estates, subject to the payment of a jama fixed for a term of years, and liable to revision at the end of the period. The jama varies from 50 to 70 per cent. of the kamâl,† according to the personal condition of the taluqdars; the kamâl being ascertained by a survey and classification of the land on the usual principles, as in pure Government villages. Most of the estates are small. The narwadari and bhagdari tenures, on the other hand, resemble the pattidari tenure of Upper India, in all its varieties. The sharers (called *pâtidars* instead of *pattidars*) are supposed to be the descendants of the old proprietary body. At the head of each main division is a *mukhsh bhagdar* or chief shareholder, who is responsible for the revenue assessed on the whole division, and thus corresponds to the lumberdar of a patti in a pattidari village. The shareholders are jointly and severally responsible for the revenue of their shares, and of the

* Including the tenures called mehwasi, which are substantially of the same character; as also the 'wanta', or quit-rent tenure.

Narwadari and bhagdari tenures.

† The kamâl means the full assessment imposable upon every acre of surveyed land, occupied and unoccupied.

village; but as a matter of fact the principle of joint responsibility has been usually suffered to remain a dead letter. The division of the village lands may be either complete or incomplete, and the shareholders' rights may be measured either by proportional shares, or by village custom, or by actual holdings, as in perfect and imperfect pattidari and bhayachara villages in Upper India. The only important difference between the bhagdari and the narwadari tenure is, that in the former the jama of the village was the aggregate of the separate field assessments, while in the latter it was a lump sum assessed on the village as a whole. The distinction has ceased to exist since the survey, and the jama in both classes of villages is now the sum of the field assessments. In distributing the new jama over the shares, various methods have been adopted, according to the choice made by the co-sharers at the time of settlement or subsequently. In some villages, the revenue liability is determined by recognized proportional shares; in others, by the area of actual holdings; in others, the survey valuation of each co-sharer's lands was accepted as the measure of his liability. In all cases the jama is a fixed sum, and the revenue payable by the sharers does not vary with the extension or contraction of cultivation. But the village can be made ryoti if the shareholders agree; and this has actually happened in many cases. The rights of tenants have been defined in the settlement records, with a view to protect them from further encroachment on the part of the shareholders; the highest class of tenants pay only the revenue assessment on their fields.

Irrigated lands.

The method of assessing irrigated land is another peculiar feature of the Guzerat settlements. Particulars of the various plans adopted will be found in the district notes; they involve two alternative principles—that of a separate water-rate on actual irrigation, and that of a light permanent rate on the irrigable quality of the land. The first is the most common: it is applied by assessing rice lands at a separate water-rate in addition to the dry-crop valuation of the land, and well lands at an additional rate per water-bag used in the well. The water-rate on rice lands in poor rice tracts is usually one rupee less than the dry-crop assessment of the land, but in some parts of the Surat and Kaira districts the water-rate is double the soil-rate of the field. Rice lands are irrigated (chiefly by lift) from tanks

and embankments made to catch the natural drainage of the country; but large areas are destitute of these artificial aids, and in all cases the crop is principally dependent upon the rainfall. Hence, in assessing to water-rate, the dry-crop valuation of the land has to be lowered in order to avoid over-assessment, *e. g.*, a field classed at 16 annas for dry-crop assessment may be classed at 8 annas only for assessment to water-rate. The rate on well-lands rises as high as 26 rupees per bag,* or about Rs. 7-8-0 per acre. This is for masonry wells; irrigation from unbricked wells and by lift from rivers, or from water-holes in river banks (*dhekuriat*), pays a lighter rate. In some of the later settlements the latter class of lands, whether actually irrigated or not, have been assessed at a permanent rate of one rupee per acre, in addition to the dry-crop valuation of the land. This led to the question whether the system of assessing by a light rate the water-producing qualities of the soil, in place of a high rate on actual irrigation, might not advantageously be adopted throughout Guzerat. It was decided (in 1866) that this principle should be the basis of assessment wherever assessing officers found that it could be safely and conveniently applied, *e. g.*, where the lands in which wells may be dug occur in tracts of considerable extent. The principle does not apply to rice lands.

* A common water-bag waters 3½ acres.

Resolution No. 2110, Revenue Department, 8th June 1866.

Kasar on wells.

The rate on wells (called *kasar*) is an immemorial institution throughout the province. From time to time (the last occasion was in 1876) it has been proposed to forgo the rate, and to exempt wells from special assessment, as in the Deccan; but the local Government has always ruled otherwise, except in taluqas where wells are few, and irrigation needs encouragement. Here well-lands are assessed at maximum dry-crop rates, slightly raised by a higher soil classification (one to two annas in the rupee) in consideration of the water advantage enjoyed. New wells are exempt from *kasar*, and liable only to the highest dry-crop rates.

Bhatta lands.

Bhatta lands are those which are naturally moist. They generally lie along rivers, and are exposed to floods. Where cultivation is uncertain, they are annually leased; where benefited by alluvial deposits, they are assessed at very high rates (rising to 33¼ rupees per acre) for their exceptional fertility.

The Panch Mahals, which were ceded by Scindia in 1861 in exchange for lands

near Jhansi, have been classed with the four Guzerat districts, as presenting the same method of assessment of irrigated lands.

Financial results.

Comparing the assessments of the year before settlement, with the assessments of 1877-78, the results of the settlement of Government lands (*i e.*, lands other than taluqdari, mehwasi, &c., or alienated) appear as follows:

District.	Old assessments.	Assessments of 1877-78.	Difference.	Percentage.
	Rs.	Rs.	Rs.	
Ahmadabad ...	8,12,428	8,08,276	—4,152	0·5
Kaira ...	11,70,608	12,71,978	+1,01,370	8·7
Surat ...	18,48,426	20,70,428	+2,22,002	12
Broach ...	16,74,734	19,64,555	+2,89,821	17·3
Panch Mahals	1,30,935	1,93,572	+62,637	47·7

This gives a total as follows:

Old assessment.	Assessment of 1877-78.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
56,37,131	63,08,809	6,71,678	11·9	36,15,047

It should be explained that the cost of the Guzerat survey and settlement from 1851-52 to 1878-79 was Rs. 41,31,482 altogether; but about one-eighth of this was due to alienated villages; and if this proportion be deducted, the cost chargeable to settlement operations on Government lands will appear as above.

AHMADABAD.

Area	...	3,844 *sq. miles.*
Population	...	8,29,637.

THE Ahmadabad district became British territory in 1818. For a few years the Mahratta revenue system was maintained, under which villages were farmed out to the patels and others. The poverty of the patels, and the injurious results of their competition with speculative farmers, rendered the continuance of this system impracticable, and recourse was had to direct ryotwari management. There were two principal modes of levying the revenue—*bhâg batai*, or division of the crop and realisation in kind, and *jinswar bighauti*, or crop-rates per bigha, taken in cash. The *bhâg batai* assessments, where they were lightest, varied from one-third to one-fourth of kharif, and from one-eighth to one-tenth of rabi crops; but the ryot also paid a heavy plough-tax, varying from Rs. 4 to Rs. 21, on each pair of bullocks engaged in agriculture, besides a number of cesses regulated according to caste, occupation, &c. Matters were further complicated by the practice of the pargana revenue officials in changing villages from *bighauti* to *bhâg batai*, and *vice versâ*, without consulting the Collector. Between 1832 and 1837 a revision of assessment was made in a number of villages, at cash rates per bigha, not varying with the crop, and in 1850-51 a similar system was extended to most of the rest of the district by the help of panchayats. These assessments were little less intricate than those which they superseded. They varied not only according to fertility of soil and the presence or absence of irrigation, but also according to the caste and means of the cultivator, his agricultural skill, and a number of other considerations, besides including extra cesses on extra cultivation in specially favoured lands. In some villages the original *bhâg batai* system survived; in others the old crop-rates continued to be taken, placing the cultivation of high-class crops at a disadvantage, and multiplying the annual assessment twice or thrice wherever successive crops were raised on the same land. These rates were partly alleviated by employing an 'estimated' bigha for revenue collections, half as large again as the actual bigha of cultivation. The general

result was that sixteen different modes of levying the revenue existed in 1850, and sometimes three or four in the same village. All this want of uniformity in its revenue system, however, did not prevent the district, as a whole, from making material progress in population, cultivation, and resources, though in some parts the pressure of the old assessments was burdensome as well as unequal, especially on the villages under crop-rates.

In 1820-1824 a survey of the district was made, village boundaries were mapped out, and fields were numbered and registered, but not mapped or defined by boundary marks. The object of the survey was principally topographical, and no use has ever been made of it for revenue purposes. The present revenue survey appears to have been introduced into the district in 1851, and the settlements, made tentatively in a few villages in 1853, have been completed between 1855 and 1862. The decrease of revenue entailed by the earlier settlements was the subject of lengthy correspondence, ending in the confirmation of the new rates, though admittedly light on dry-crop lands.

With the exception of the hill taluqa of Modasa, the Ahmadabad district is generally a level plain, lying very low in some parts, bare of trees where the black soil prevails, but well wooded in the riverain tracts of *goraru* soil. Indian millet (jawar), spiked millet (bajri), and wheat are the principal food crops, in nearly equal proportions; and cotton in 1877-78 occupied as much as one-fifth of the cultivated area. Rice lands amount to about one-sixth of the cultivated area. About 15 per cent. of the culturable area is unoccupied, but half of this lies in the hill taluqa abovementioned. The Bombay Baroda and Central India Railway runs through the district towards Kathiawar, and the Western Rajputana and Kathiawar State lines now in progress will open up the district still further.

In 1878-79 only 4·4 per cent. of the cultivated area was irrigated, nearly half from wells, the rest from tanks. The assessment of irrigated lands has undergone several changes. At first, lands under brick wells were assessed at consolidated wet-rates; *dhekuriat* lands at water-bag rates rising as high as Rs. 12; while *bhatta* lands, where permanent and watered

Jaitulpur Report, Superintendent's letter of 10th December 1872.

from unbricked wells, were similarly assessed. In 1866 these arrangements were modified by the imposition of a low *permanent* water-rate on dhekuriat and permanent bhatta lands in place of the cess on water-bags. This rate was applied to a large area of bhatta land incapable of bearing it, and the consequence was that half the bhatta lands were uncultivated in 1872, and in February 1873 the Government reverted to the old system of annual auction for all such lands which had been relinquished since their assessment to the permanent water-rate. In the later-settled parganas, garden lands have been assessed at consolidated rates. Rice lands pay water-rate whenever rice or any irrigated crop is raised. Dry-crop land converted into rice land continues to be assessed at dry-crop rates.

In certain villages transferred to Kaira before 1866, dhekuriat and permanent bhatta lands continued to pay the 12-rupee cess on water-bags till September 1873, when it was reduced to Rs. 8—the rate prevailing generally in the Kaira district.

Gazetteer, page 178.

The immediate results of the revision of settlement for the entire district were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
8,12,428	6,51,506	—1,60,922	19·75

The incidence of the new assessments per occupied acre is shewn in the subjoined table:

		Rs.	As.	P.		Rs.	As.	P.
Dry-crop	...	9	13	6	to	0	2	0
Rice	...	13	2	0	„	0	8	6
Garden	...	14	14	0	„	1	2	0

The general revenue incidence over the whole district was Rs. 1-13-3 per assessed acre, against Rs. 2-6-6 before settlement. By this time the revenue has risen almost to its former figure. The demand from Government villages in 1876-77 was Rs. 8,09,899, and in 1877-78 Rs. 8,08,276.

The district will come under revision of settlement in 1886-87.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—102 *villages of Dholka.*—No complete statistics of areas and assessments are given, but, according to the returns for 91 villages, about 7½ per cent. of

the cultivated area of 1853-54 was under rice, and 16 per cent. was garden land.

		Maximum rates.			
		Rs.	As.	Rs.	As.
Dry-crop ...	...	2	4 to	1	0
Rice water-rate ...	...	6	0	...	
Well rate, per bag. Masonry wells	...	9	0 to	5	0
Unbricked wells	...	4	8 „	3	0
Waterholes	...	10	0 „	4	0

On actually introducing the settlement, financial results proved to be—

Old assessment (average of ten years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,06,978	1,37,975	—69,002	33½

The new average-rate in 44 villages was Rs. 1-12-3 per cultivated acre.

The settlement was introduced in 1854-1857.

II.—Viramgaum Pargana.—Government cultivation, 98,181 acres (2½ per cent. rice, 2¼ per cent. gardens).

		Maximum rates.			
		Rs.	As.	Rs.	As.
Dry-crop ...	...	2	0 to	1	0
Rice water-rate .	...	5	8	...	
Well-rate, per bag { Brick wells	...	8	0	...	
Earthen wells	...	5	0	...	

On introducing the new assessments, the financial results proved to be—

Old assessment (1857-58).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
94,200	1,17,760	23,560	2·5

Deducting Rs. 6,080 due to accidental causes, the average rate per cultivated acre was Rs. 1-2-2, against a former average of Rs. 1-3-1. The occupied area of the year of settlement exceeded by 14 per cent. that of the previous year.

The settlement was introduced in 1858-59.

III.—Old Jaitalpur Taluqa.

		Acres.
Government arable area	...	66,657
Do. cultivated do.	...	51,136

(One-third rice and one-ninth gardens.)

The maximum rates of the new assessments were—

	Rs.	As.	Rs.	As.
Dry-crops ...	2	12	to 2	0
Rice water-rate ...	10	0	„ 4	0
Gardens	8	8	.....	

Gazetteer, page 177.

The garden-rate seems to have been a consolidated one. The immediate results of revision of settlement were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,56,380	1,26,790	—29,590	12½

This taluqa was settled in 1858-59, but the rates were not confirmed till 1864, and then only till 1872-73. Meanwhile the taluqa was broken up, and its 57 villages were distributed among other taluqas. In 1873 the settlement was confirmed, and continued till 1886-87. At that time the revenue demand was Rs. 1,69,210, with an average rate of Rs. 3-15-5 per cultivated acre, *viz.*,—

	Rs.	As.	P.
Dry-crop	1	12	6
Rice	6	13	3
Gardens	5	5	2

IV.—Pargana Daskrohi.

	Acres.
Government arable area ...	92,932
Do. cultivated do. ...	64,533

(9·3 per cent. rice, 13½ per cent. gardens.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crops ...	3	12	to 2	8
Rice water-rate ...	6	0	.....	
Gardens	10	0	.....	

The garden-rate is a consolidated one.

This taluqa is mostly light alluvial soil *(goraru)*, producing kharif crops.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,00,969	1,85,226	—15,743	7½

Average rates were—

	Rs.	As.	P.
Dry-crops ...	2	7	8
Rice	4	13	9
Gardens	3	11	7
Total	2	13	10

The settlement was introduced in 1860-61.

V.—Parántij Pargana, with Modâsa Mahal.

		Acres.
Government arable area	...	119,313
Do. cultivated do.	...	70,248

			Maximum rates.			
			Rs.	As.	Rs.	As.
Dry crop ...	Parantij	...	2	0 to	1	8
	Modâsa	...	1	8 „	1	0

Rice lands pay a water-rate equal to the dry-crop assessment. Their area is inconsiderable. The garden area is very small, and was estimated to pay double the dry-crop assessment. The maximum rate was Rs. 5.

This is a comparatively poor taluqa, surrounded by, and intermingled with, foreign territory. The Modâsa mahal is a jungle tract sparsely inhabited by aboriginal races (kolis). The average rates of the settlement of 1837-38 were taken as a guide in fixing the general incidence of the new assessments. Villages inhabited by 'kolis' were kept in a lower class than was otherwise warranted by their circumstances, so as to avoid driving the kolis back to the jungle and predatory habits.

On introducing the new assessments, the financial results proved to be—

Old assessment. (1860-61).	New assessment.	Difference.	Per centage.
Rs.	Rs.	Rs.	
80,565	82,060	1,495	1·8

giving an average rate of Rs. 1-0-7 per cultivated acre in Modâsa and Re. 1-3-6 in Parantij Proper.

The settlement was introduced in 1861-62.

KAIRA.

Area	...	1,561 *sq. miles.*
Population	...	7,82,733.

PART of the Kaira district became British territory in 1803, and part in 1818. The old revenue system, inherited from days of native rule, was very similar to that of Ahmadabad. After the farming method had been done away with in 1814, the revenue was collected either by actual division of the crop, or by valuation and commutation of the Government share into a money payment, or by crop-rates or caste-rates determined by panchayats. Sometimes the cultivator's entire holding would be assessed at an all-round rate; sometimes part of it paid a very heavy, and the rest a nominal assessment. Cesses of various kinds contributed to make up the total revenue demand. The incidence of the assessments was extremely unequal, varying from 14 annas to 14 rupees per acre in similar villages. A plan of giving leases of holdings was tried from 1838 to 1844, but the rents were too high, and the experiment proved a failure, and was not repeated.

There are about ninety narwadari villages in the district. They were found to be in an exceptionally prosperous condition, as compared with *senja* or ryotwari villages, when settled in 1863-1865.

Rice lands have been assessed to water-rate in the usual manner. Garden lands, in the taluqas first settled, paid a water-bag rate ranging as high as Rs. 24-8-0 per bag. Subsequently this plan was abandoned for an acreage water-rate, fixed with regard to the quality of the well, and ranging as high as 9 rupees per acre. Dhekuriat lands were first assessed at a water-bag rate, and afterwards at a light water-rate (one rupee per acre) on all irrigable land.

There is not much bhatta land in the district. It has been assessed at consolidated garden-rates, irrespective of irrigation.

The greater part of the Kaira district is a fertile plain. The unculturable parts are the hills and jungles of the north-east, and the saline tracts along the western border. About 20 per cent. of

the arable area of the district is uncultivated. Millets and rice are the principal crops, but wheat and pulses are also grown. More than 10 per cent. of the cultivated area is irrigated, chiefly from wells. The district is well supplied with roads. It is traversed by 40 miles of railway from south to north, and a branch has lately been opened eastwards to Pali.

The survey began in Kaira in 1856-57, and the settlements were introduced into the various taluqas between 1863 and 1868, with the following results:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
11,70,608	12,71,147	1,00,539	8·9

Maximum rates, and the average rates resulting from their application, varied in the different taluqas as follows:

	Maximum rates.		Average rates.		
	Rs. As.	Rs. As	Rs. As	P. Rs	As. P.
Dry-crops ...	6 4	to 2 0	4 3	6 to 1	4 1
Rice (with water-rate)	13 12	„ 3 0	6 8	1 „ 2	13 2
Garden ...	.....		9 14	0 „ 3	9 8

The general revenue incidence throughout the district was Rs. 3-3-4 per acre of occupied land.

The assessments have varied little since the introduction of settlement. They amounted to Rs. 12,55,838 in 1876-77, and to Rs. 12,71,978 in 1877-78.

The district will come under revision of settlement in 1892-93.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Matur (now Mahmadabad) Pargana.

	Acres.
Government arable area ...	74,886

(18 per cent. rice land, 14·4 per cent. gardens.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crops ...	4	12	to 3	8
Bhatta land ...	13	8	...	
Rice water-rate ...	6	0	...	

Garden lands under wells were assessed at a garden-rate, in addition to the dry-crop valuation of the land, calculated according to the capacity and quality of the well, and the area of irrigable lands. Lands watered by river lift were similarly treated. Dry-crop lands brought under irrigation from rivers subsequently to settlement were to pay a water-bag rate of Rs. 8 per bag.

Financial results on the introduction of the settlement were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,02,766	2,41,071	38,305	19

The average rates were—

		Rs.	As.	P.
Dry-crop	...	2	14	4
Gardens	...	4	12	10
Rice land	...	5	7	3
Total	...	3	10	1

The settlement was introduced in 1863-64.

II.—Pargana Mahunda.

	Acres.
Government arable area ...	84,713

(16 per cent. rice land, 2·9 per cent. gardens.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crops ...	4	8 to	2	0
Rice water-rate ...	3	8 „	1	0

Garden lands were assessed in the same manner as in Matur.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,90,739	2,03,487	12,748	6·6

Average rates—

		Rs.	As.	P.
Dry-crop	...	2	4	3
Rice	...	4	0	3
Gardens	...	4	1	11
Total	...	2	9	8

There are large wastes of poor black soil in parts of this pargana.

The settlement was introduced in 1864-65.

III.—Thâsra Taluqa.

	Acres.
Government arable area ...	47,582
Do. cultivated do. ...	38,609

(12 per cent. rice land, 3·7 per cent. gardens.)

Maximum rates are not shown.

This taluqa resembles Mahunda in circumstances. Financial results on the introduction of the settlement were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
69,095	83,182	14,067	21

Average rates—

		Rs.	As.	P.
Dry-crops	...	1	14	11
Rice	...	3	13	0
Gardens	...	3	9	8
Total	...	2	3	1

The settlement was introduced in 1864-65.

Garden lands were assessed as in Matur and Mahunda. The water-rate on *dhekuriat* or river lift irrigation was one rupee per acre of irrigable area, whether actually irrigated or not.

IV.—27 *maliki villages.*

	Acres.
Government arable area ...	42,946
Do. cultivated do. ...	31,234

	Maximum rates. Rs. As.	Rs. As.
Dry-crop ...	... 4 12	to 1 12
Rice water-rate	... 3 12	„ 0 12

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
75,299	83,625	8,326	11

The new assessment was divided as follows:

Wajheli.		Sântheli.	
Maliks.	Government.	Sânthdars.	Government.
Rs.	Rs.	Rs.	Rs.
26,054	28,983	17,867	10,721

The average rates are—

	Rs. As. P.
Dry-crop ...	... 2 5 2
Rice land ...	... 3 12 1
Gardens ...	... 3 13 3

These villages were given in revenue-free jagir to certain Mussalman families four centuries ago. Under Mahratta exactions, the maliks, or descendants of the jagirdars, were forced to alienate much of their lands, and on the introduction of British rule the villages were partly 'wajheli', *i. e.*, paying 'wajha,' or rent, to the maliks, besides cesses to the Government, and partly 'sântheli,' *i. e.*, alienated lands paying cesses to the Government only. The present settlement, made with the consent of the maliks, allows them seven annas (and in a few cases nine annas) in every rupee of assessment, as the equivalent of their wajha, besides a priority of choice as regards occupation of waste lands, and other manorial privileges. On sântheli lands the Government takes ten annas, leaving six annas in the rupee to the sânthdar.

There is much inferior black soil (*mal*) in these villages.

The settlement was introduced in 1863-64.

V.—*Kapadwanj Taluqa.*

	Acres.
Government arable area ...	79,259
Do. cultivated do. ...	67,218

(6 per cent. rice, 1·8 per cent. gardens.)

	Maximum rates. Rs. As.			Rs. As.
Dry-crop	... 3	8	to	1 12
Rice water-rate	... 2	8	„	0 12

The financial results on introduction of settlement were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs. 72,844	Rs. 1,00,353	Rs. 27,509	38

Garden lands were assessed as in the preceding taluqas. River lift irrigation pays a water-bag rate; it is of very small extent.

Average rates:

	Rs. As. P.
Dry-crop ...	... 1 4 1
Rice ...	... 2 13 2
Gardens ...	... 3 13 5
Total ...	... 1 8 5

The settlement was introduced in 1864-65.

VI.—Neriad Taluqa.

	Acres.
Government arable area ...	64,235
Do. cultivated do. ...	52,577

(8½ per cent. rice, 6½ per cent. gardens.)

	Maximum rates. Rs. As.			Rs. As.
Dry-crops	... 6	4	to	3 8
Rice water-rates	... 7	8	„	2 8
Well water-bag rate	24	8		...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,26,944	2,30,516	3,572	1·6

Average rates:

	Rs. As. P.
Dry-crops ...	... 3 13 10
Rice land ...	... 5 15 11
Gardens ...	... 9 14 0
Total ...	... 4 6 2

Narwa villages pay Rs. 1,26,405 of the new assessments.

The settlement was introduced in 1866-67.

VIII.—Barsad Taluqa.

	Acres.
Government arable area ...	70,743
Do. cultivated do. ...	67,250

(7 per cent. rice, 14 per cent. gardens.)

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crop ...	6	0	to	4	0
Rice water-rate ...	7	8	„	3	0
Well water-bag rate	24	8		...	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
3,32,991	3,28,913	—4,078	1·2

Average rates were— Pages 296, 297, 277.

	Rs.	As.	P.
Dry-crop ...	4	3	6
Gardens ...	7	12	7
Rice ...	6	8	1
General average	4	14	2

Narwa villages pay Rs. 2,47,088 of the new assessments. The settlement was introduced in 1868.

SURAT.

Area ...	...	1,588 *sq. miles.*
Population	...	607,087

THE taluqas composing the present district of Surat were acquired partly in 1803, and partly in 1818, but one taluqa (Mandvi) did not become British territory till 1843. The farming system prevailed under native rule, and was continued till 1816, when a ryotwari settlement was made, at a considerable enhancement of revenue. This proved oppressive and injurious, and in 1832-34 the settlement was revised, rates were largely reduced, and leases were given, lasting till 1837-78. These were mostly *hundabandi, i. e.*, leases of holdings at lump sums, waste and cultivation together, but *khatabandi* or annual leases of actually occupied land were adopted in some villages. The leases were renewed in 1838 and 1844-45, and regular cash rates per bigha gradually came to be introduced into a number of villages, especially in 1862-63, the year after the expiry of the last leases; while in villages not thus treated, the practice generally was for the ryots to go on paying their hundabandi assessments, *plus* the rates put upon such extra Government land (called sîr) as they might take up. Taluqa Mandvi was settled at bigha-rates shortly after its incorporation in the district. All the settlements made since 1832 have been light, and the district has prospered under them.

The Guzerat survey broke ground in this district in 1859, and the entire district was settled between 1863 and 1873. The new rates of assessment are especially high on rice and garden land. The latter has been assessed, in all the earlier settled taluqas, at a waterbag-rate per well, running as high as $33\frac{3}{4}$ rupees per bag for masonry wells. But in the Mandvi taluqa, wells have been exempted from extra cess, and well-lands pay only the highest dry-crop rates, on a higher classification where near the village. Bhatta lands have been assessed at consolidated rates, ranging up to $22\frac{1}{2}$ rupees per acre. These lands are of exceptional fertility. They comprise 4 per cent. of the cultivated area. The central portion of the district is an alluvial plain,

fertile and highly cultivated; sand and salt marsh prevail along the coast, and the eastern and northern parts of the district abound in barren and jungly uplands. The chief dry crops are Indian millet (jawâr) and cotton. Twenty-three per cent. of the cultivated area of 1878-79 was under rice. Only 12 per cent. of the entire arable area was uncultivated in 1878-79. Seven per cent. of the cultivated area is irrigated.

A large proportion of the cultivators in this district are aboriginal tribes, improvident, intemperate, indebted, and careless agriculturists.

There are a few narwa and bhagdari villages.

The district is traversed from north to south by the Bombay and Baroda railway for a distance of 73½ miles.

Besides the taluqas noted on below, there are also those of Chikli and Bardoli, assessed in 1863-64. For the entire district the results of the settlement have been as follows:

Gazetteer, page 225.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
18,48,426	21,10,357	2,61,931	14½

This gives an average rate of Rs. 3-6-8 per cultivated acre, against the former average rate of Rs. 3-2-8. The disproportion between the enhancement of revenue and the enhancement of the average revenue-rate is explained by the assessment of large areas of grass land formerly held revenue-free by way of enabling the cultivator to make good the assessment upon his cultivated land. The new revenue incidence per acre on the different kinds of cultivation is shewn below:

	Rs.	As.	P.		Rs.	As.	P.
Dry-crop ...	15	5	0	to	0	1	6
Rice ...	23	1	6	„	0	15	0
Gardens ...	25	5	0	„	1	2	6

The settlement demand has not been sustained during the last three years. The assessments on Government villages in each year are shewn below:

	Rs.
1875-76	20,27,908
1876-77	20,32,618
1877-78	20,70,428

The settlement of the whole district expires in 1894-95.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Chaurasi Taluqa.—Government cultivated area, 22,454 acres. Maximum rates are not shewn. This taluqa includes the city of Surat, and the average rates are

accordingly high. Financial results, on the actual introduction of the settlement, proved to be as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,36,816	1,29,375	—7,441	5·4

Average rates were—

	Rs.	As.	P.
Dry-crop	5	4	2
Rice	10	14	6
Gardens	10	0	5
Total	5	11	8

The settlement was introduced in 1865-66.

II.—Supa Taluqa.

	Acres.
Government cultivated area ...	59,044

(8·8 per cent. gardens, 13½ per cent. rice land.)

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crop	6	4	to	4	8
Rice water-rate ...	17	4	„	12	0
Bhatta lands ...	22	8	„	14	0
Well-rate per bag ...	33	9	„	27	0

This taluqa is a level and highly-cultivated tract of deep alluvial soil, bordered on the seaboard by a salt marsh. Financial results, on actual introduction of the settlement, proved to be—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,60,741	3,12,762	52,021	20

Average rates were—

	Rs.	As.	P.
Dry-crops	3	9	9
Rice land	12	8	4
Gardens	11	6	3
Total	5	8	7

The settlement was introduced in 1867-68.

II.—Balsar Taluqa.

	Acres.
Government arable area ...	98,233
Do. cultivated do. ...	90,332

(10 per cent. rice-land, 10 per cent. gardens.)

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crops ...	3	12	to	1	8
Rice { Soil ...	4	8	„	1	8
Rice { Water ...	17	4	„	10	8
Bhatta lands ...	22	8	„	13	8
Well-bag rate ...	24	0		...	

The soil of this taluqa is chiefly poor ferruginous loam. Financial results, on the introduction of the settlement, proved to be—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,20,849	2,37,858	17,009	7·7

Average rates were—

	Rs.	As.	P.
Dry-crops	1	1	7
Rice	7	11	1
Gardens	9	8	4
Total	2	10	2

The settlement was introduced in 1867-68 and 1868-69.

IV.—Ulpar Taluqa.

	Acres.
Government arable land ...	110,753
Ditto cultivated do. ...	99,985

(3½ per cent. rice-land, 1 per cent. gardens.)

	Maximum rates. Rs.		Rs.
Dry-crops ...	... 7	to	5
Rice water-rate...	... 6	„	3
Bhatta land ...	... 12		...
Gardens ...	... 10		...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
4,71,129	5,47,628	76,499	16

Half of the increase, however, was due to the assessment of grass lands, hitherto held at nominal rates by way of compensating the heavy assessment of cultivation. The average rate on the total occupied area is Rs. 5-7-8 per acre. The settlement was introduced in 1869-70.

V.—Pardi Taluqa.

	Acres.
Government arable area ...	91,116
Do. cultivated do. ...	78,937

(16 per cent. rice land, 1·7 per cent. gardens.)

	Maximum rates. Rs.	As.		Rs.	As.
Dry-crop	... 2	0	to	1	0
Rice { Soil	... 3	0	„	2	0
Rice { Water	... 10	0	„	6	0
Bhatta lands	... 15	0	„	10	8
Well bag-rate	... 26	0	„	9	0

This taluqa lies south of Balsar. The majority of the cultivators are aboriginal tribes. Financial results, on the actual introduction of the settlement, proved to be—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,07,889	1,24,984	17,095	16

Average rates were—

	Rs.	As.	P.
Dry-crop	0	10	10
Rice	5	13	6
Gardens	4	11	4
Total	1	9	4

The settlement was introduced in 1869-70.

VI.—Mandvi Taluqa.

	Acres.
Government arable area ...	116,183
Do. cultivated do. ...	82,041

(6 per cent. rice land, 141 acres garden land.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crop	4	8 to	1	4
Rice water-rate ...	5	4 „	1	8
Bhatta	7	8	...	

Well-lands were assessed at the maximum dry-crop rate, with a higher classification where near the village. This is the most unhealthy taluqa of the district. It is surrounded by the Gaekwar's territory, and contains much jungle, and a large proportion of aboriginal population. Financial results, on introduction of settlement, proved to be—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,28,585	1,36,518	7,933	6·2

Average rates were—

	Rs.	As.	P.
Dry-crop	1	9	2
Rice	3	7	3
Gardens	4	5	8
Bhatta	4	4	9
Total	1	11	0

The settlement was introduced in 1872-73.

BROACH.

Area ... *sq. miles.*
Population ...

THE Broach district is part of the territory ceded by the treaty of Bassein in 1802. More than half the villages in the district were *bhagdari* at the time of cession, and under Mahratta rule they were annually leased to the bhagdars. The same system was followed for some years after cession, the annual demand being fixed on the average revenue of four good years for each village, and then distributed over the bhagdari shares. In ryotwari villages the revenue was realised by annual valuation of the crop, the Government share being half the estimated gross produce after deduction of village expenses. In reality it was considerably less, and in some parts a cash rate of Rs. 3-12-3 per bigha came to be recognised as an equivalent, which might be substituted when it was not convenient to make an estimate. A general settlement was made in 1835-37 at a large enhancement of revenue (58 per cent. in one taluqa), and lasted ten years, with the help of heavy remissions. Revision of settlement was made in 1847-48, large outstanding arrears were written off, and the revenue demand was reduced about 13 per cent. The new settlement worked well, and the district prospered.

Settlement of the bhagdari villages has been made on the same principles as in Ahmedabad. Most of the villages which were bhagdari at cession have become ryotwari by this time.

The district consists chiefly of black soil, producing Indian millet (jawâr) as the chief food-grain, also wheat and rice. Nearly 20 per cent. of the cultivated area of 1878-79 was under cotton. Only three per cent. is irrigated, all from wells. Well-lands have been assessed with a water-bag rate of Rs. 24. In one taluqa, for the water-bag rate has been substituted an acreage water-rate like that applied to rice lands; in another, well-lands have been assessed at dry-crop rates with a higher classification. Bhatta lands pay a consolidated rate.

There are 28 miles of railway in the eastern portion of the district.

The survey began in 1863, and the settlement of the entire district was completed by 1877, with the following results:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
16,74,734	19,63,320	2,58,586	15·3

The maximum rates employed, as elsewhere in Guzerat, were high, varying as follows:

	Rs.	As.		Rs.	As.
Dry crops ..	7	8	to	4	0
Alluvial land ...	15	0	„	9	0
Rice water-rate ...	9	12	„	3	0
Well-rate per bag ...	33	12	„	24	0

while the average revenue incidence on the various kinds of cultivation was—

	Rs.	As.	P.		Rs.	As.	P.
Dry crop ...	4	15	3	to	3	8	0
Rice ...	10	10	7	„	5	12	1
Gardens ..	8	13	1	„	5	15	8
Alluvial land ...	8	7	1		.....		

The general average rate was Rs. 4-2-8 per cultivated acre. This has been estimated to be equivalent to one-fifth the value of gross produce.

The revenue demand of 1876-77 from Government lands was Rs. 19,64,937, and that of 1877-78 was Rs. 19,64,555.

The district comes under revision of settlement in 1900—1901.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Broach Taluqa.—Total area 303 square miles.

Government cultivated acres:

Dry crop.	Rice.	Alluvial.	Total.
96,610	7½	8,723	105,340

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crop ...	7	0	to 5	8
Rice water-rate ...	5	8	„ 4	8
Alluvial land ...	15	0	„ 9	12
Well-rate per bag	33	12	...	

Financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
4,68,383	5,52,133	83,750	17·9

Average rates were—

	Rs.	As.	P.
Dry crops ...	4	15	3
Rice	10	10	7
Alluvial lands ...	8	7	1
Well lands ...	8	13	1

The settlement was introduced in 1870-71.

II.—Ankleshwar Taluqa.—Total area 293 square miles.

Government cultivated acres:

Dry crop.	Rice.	Well-lands.	Alluvial.	Total.
105,423	2,336	224	1,222	109,206

	Maximum rates. Rs. As.	Rs. As.
Dry crops ...	6 8	to 5 0
Rice water-rate ...	9 12	„ 7 8
Alluvial land ...	12 0	9 0
Well-rate per bag ...	24 0	„ .....

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		
3,74,289	4,24,780	50,491	13·5	Not shewn.

Average rates were—

	Rs. As. P.
Dry crop	4 1 9
Rice	8 5 5
Gardens	8 7 4
Total	4 4 2

Gardens include well-lands and alluvial lands. The incidence on the latter separately was Rs. 8-12-4.

The settlement was introduced in 1871-72.

III.—Wagra Taluqa.—Total area 308 square miles.

Government cultivated acres:

Dry crop.	Rice.	Gardens.	Total.
89,565	314	82	89,961

	Maximum rates. Rs. As.	Rs. As.
Dry crop ...	5 8	to 4 0
Water-rate ...	4 8	„ 3 0

The water-rate applies to both well-lands and rice-lands.

This taluqa is a black soil plain, producing chiefly cotton, jowar and wheat. It is not so rich as Broach and Ankleshwar, and suffers much from want of water and from encroachments of the sea.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,46,206	3,15,576	69,370	28

Average rates were—

	Rs. As. P.
Dry crop	3 8 0
Rice	6 3 3
Garden	5 15 8
Total	3 8 5

The settlement was introduced in 1873-74.

IV.—Jambusar Taluqa.—Total area 373 square miles.

Government cultivated acres:

Dry crop.	Rice	Garden.	Total.
88,741	3,326	880	92,949

	Maximum rates. Rs. As.	Rs. As.
Dry crop ...	5 8	to 4 0
Rice water-rate ...	4 8	„ 3 0
Well-rate per bag ...	24 0	.....

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
3,67,887	4,18,754	50,867	14

Average rates were—

	Rs.	As.	P.
Dry crop	4	7	1
Garden	8	9	5
Rice	6	3	1
Total	4	8	7

The settlement was introduced in 1876-77.

V.—Amod Taluqa.—Total area 176 square miles.

Government cultivated acres :

Dry crop.	Rice.	Garden.	Total.
72,358	69	1,102	73,529

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crop ...	5	8 to	4	0
Rice water-rate ...	4	8 „	3	0
Alluvial lands ...	12	0 „	9	0
Well-lands ...	7	8	.....	

The well-lands were assessed at a consolidated rate by raising the classification by two to four annas. But this was ordered to be revised as too low.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		
2,17,969	2,52,257	34,288	15¾	Not shown.

Average rates were—

	Rs.	As.	P.
Dry crop	4	8	10
Rice	5	12	1
Garden	6	12	8
Total	4	9	4

The settlement was introduced in 1875-76.

PANCH MAHALS.

Area ... 1,731 *sq. miles.*
Population ... 240,743.

THE Panch Mahals came under British management in 1853-54, and definitively became British territory in 1859-60. The district was then partly ryotwar, partly held by taluqdars. The revenue demand from the taluqdari estates has generally remained unchanged, but 23 villages were made ryotwar in 1873 on the refusal of the taluqdars to accept them on the terms offered after survey. In the ryotwari part of the district, to which alone the present notes relate, no detailed account of the area and occupation of the lands of each village was received at the time of transfer, and the basis of all subsequent revenue estimates was the list of leases given out under native rule in 1850-51, and lasting till 1854-55. The old revenue system was extremely complicated. Some villages paid a plough tax, varying, according to the class of the cultivator, from Rs. 2 to 15 per plough; others were assessed at fixed lump sums paid through the patel; others by *bhag batai* at one-third to one-fourth of the crop after a deduction of 20 per cent.; others by cash crop-rates; and in 1865-66, after a rough survey, cash-rates per bigha were introduced into twenty-two villages. The result of all this was "utter confusion" and "complete chaos" by the time the present survey and settlement began. Survey lasted from 1865 to 1871, and the taluqas of Kalol and Godhra were settled in 1871 and 1875, but the new rates were not introduced into Dohad taluqa till 1878-79.

The district is an exceptional one. The greater part of it is scantily inhabited by aboriginal tribes, and much overrun with jungle; the climate is unhealthy, cultivation rude, and the habits of the cultivators unsettled. The soil is chiefly goraru, either pure, or mixed with black soil. Maize, bajri, ragi, rice, and gram are the staple crops. Only 2½ per cent. of the cultivated area of 1878-79 was under irrigation, almost exclusively from wells. Irrigated land has been variously dealt with. In the Kalol taluqa a well-rate of Rs. 24 per water-bag was imposed, while in the Godhra taluqa well-lands

were assessed at dry-crop rates on a higher classification. Rice lands, as usual, were assessed separately for soil and water.

Railway-feeder roads have been made between the chief towns and the present terminus of the Bombay, Baroda and Central India branch line at Pâli. The system will be completed when that line is further extended to the chief town of the district.

The results of settlement have been as follow :

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,30,935	1,58,646	27,711	21

The average rates on the different kinds of cultivation in the Kalol and Godhra taluqas are shown below. The Kalol taluqa is the best in the district.

The revenue demand has considerably increased since settlement. It was Rs. 1,96,375 in 1875-76, Rs. 1,94,520 in 1876-77, and Rs. 1,93,572 in 1877-78. The settlement of the district will come under revision in 1900-01.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Kalol Taluqa.—Government cultivated area in acres—

Dry crop.	Rice.	Garden.	Total.
24,334	4,685	1,334	30,354

	Maximum rates. Rs. As.	Rs. As.
Dry crops	... 3 0	to 1 4
Rice water-rate	... 9 0	„ 4 0
River-lift ditto	... 6 0	
Well water bag-rate	... 24 0	.....

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
46,038	54,841	8,803	19

Average rates were—

	Rs. As. P.
Dry crops	... 1 5 1
Rice ...	... 3 11 6
Gardens ...	... 4 7 0
Total ...	... 1 12 7

The garden lands are those under wells or lift from rivers (*dhekuriat*).

The settlement was introduced in 1871-72.

II.—Godhra Taluqa.—Government cultivated acres:

Dry crop.	Rice.	Garden.	Total.
59,283	3,676	1,935	64,894

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crop ...	1 12	to 0 8
Rice water-rate ...	2 0	„ 0 8

Lands irrigated from wells, or by lift from rivers (*dhekuriat*), were assessed at dry-crop rates on a higher scale of classification giving a maximum garden rate of 3 rupees per acre. There is a very small area of bhatta land, to which a consolidated maximum rate of Rs. 4½ per acre has been applied.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
39,161	39,275	114	3

with average rates as follow:

	Rs.	As.	P.
Dry crops	0	9	3
Rice	1	9	3
Gardens	1	10	3
Total	0	10	8

The settlement was introduced in 1874-75.

III.—Dohad Taluqa.—The result of the introduction of the new assessments in 1878-79 was as follows:

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
45,736	64,530	16,794	40

KHANDESH.

Area ... 10,162 *sq. miles.*

Population ... 1,028,642

Captain Wingate's report of 29th March 1852.
Administration Report of 1878-79.
Taluqa settlement reports.

THE regular survey was introduced into Khandesh in 1853, and settlements were completed between 1855 and 1865, except in one taluqa which was not disposed of till 1870. The large jungle area of Khandesh necessitated some modifications of the field survey system. Waste villages were not divided into survey fields, merely their boundaries were mapped out; nor was the entire area of inhabited villages divided into fields, but only the occupied area and from one-half to twice as much arable waste. The undivided portion was classed as equal to the average of the fields, unless there was reason to the contrary, and the lands of waste villages were similarly classed with the undivided lands of neighbouring occupied villages.

The revenue system then existing was a continuation of that which had prevailed under native rule, modified by assessments made by punchayats shortly after Khandesh became a British province. These assessments were in the shape of acreage rates on land, according to supposed fertility and natural advantages. They varied much from village to village: some villages had only one all-round rate, others two, others six or seven rates. Though not, on the whole, unduly high, they were unequal in their incidence, and the new settlements were made at a reduction, on the principle of encouraging cultivation by moderate assessments. At that time, five-sixths of the arable land of the province was lying waste, whereas now the proportion of waste is less than one-fourth, and the revenue has increased from $17\frac{1}{4}$* to $28\frac{3}{4}$ lakhs, notwithstanding losses of territory to other districts.

* Net collections of 1850.

Khandesh is an eminently fertile district. The hilly tracts contain much poor soil, but the district in general, and especially the valley of the Tapti, consists of rich black loam, producing Indian millet (jawar), spiked millet (bajri), wheat (7 per cent.), oil-seeds (8 per cent.), and cotton (25 per cent. of cultivated area).

The irrigation percentage is only 1·6. Irrigated lands, whether watered from wells or dams, have been assessed at consolidated wet-rates, wells being leniently dealt with, to encourage garden cultivation. The general maximum rate on well-lands was Rs. 3 per acre. Where the lift exceeds 45 feet, well-lands pay dry-crop rates only. The maximum rate for dam-lands in taluqas Amulnair and Nasirabad was Rs. 5 per acre. Dry-crop lands throughout the district were assessed at maximum rates varying from one rupee to three rupees.

The Great Indian Peninsula Railway passes through the southern and eastern portions of the district, for a distance of 123 miles.

The area of the district has been materially altered since settlement. In considering financial results, it is necessary to take the district as it originally stood. The figures are as follows :

	Old assessment. (1878-79).	New assessment.	Difference.	Per-centage.	Cost.
	Rs.	Rs.	Rs.		Rs.
Present district ...	18,44,603	29,17,534	10,72,931	58	19,33,858
Taluqas transferred to Nasik ...	3,10,514	3,95,633	85,119	27·4	
Total ...	21,55,117	33,13,167	11,58,050	53·7	

The settlements made before 1859-60 involved a reduction of 24 per cent.; from that date, the advantages to be derived from the railway began to be taken into consideration, and some of the later settlements were made at a slight increase. Most of the arable waste has been occupied since settlement. Of the total *assessed* arable area of the taluqas noted on below, less than one-half was under cultivation at the time of settlement. The average incidence of the revenue demand is thus to be estimated on the assessed arable area rather than on the area actually under cultivation at the time of settlement. Calculated thus, it varies from Rs. 1-13-4 in the most highly assessed, to 9½ annas per acre in the lightest assessed taluqa, and is Rs. 1-1 on the whole.

The settlement of the district will be open to revision in 1884-85.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

These abstracts do not include three taluqas of which the settlement reports are not forthcoming. Moreover, the 'new

assessments' shewn in them relate to the first years of the respective settlements, thus leaving out of account the large increase of revenue subsequently obtained by occupation of waste. The extent of this increase can be judged by comparing the financial results shewn above with the first year's results in the taluqas noted on below. The latter were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
19,05,241	17,45,620	—1,59,621	8·3

I.—Sauda and Yawul Taluqas.

Acres.

Government cultivated area (1853-54) 94,470

These taluqas lie in the Tapti Valley.

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops	2	6	to	1	4	
Gardens	3	0	„	2	8	

	Old assessment.	New assessment.	Difference.	Per-centage.
	Rs.	Rs.	Rs.	
Yawul ...	91,925	82,700	—9,225	10
Sauda ...	1,03,617	86,852	—16,765	16
	1,95,542	1,69,552	—25,990	13

The average incidence of the new rates per arable acre was—

	Rs.	As.	P.
Yawul	1	7	9
Sauda	0	14	10

The settlement was introduced in 1855-56.

II.—Ravir Petta of Sauda.

Acres.

Government cultivated area (1854-55) 34,332

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops	2	6	to	1	4	
Gardens	3	0	„	2	8	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
82,147	50,814	—31,333	38

The average rate per arable acre was Rs. 1-3-4.

The settlement was introduced in 1855-56.

III.—Chopra Taluqa (Tapti Valley).

	Acres.
Government arable area (1855-56)...	172,281
Ditto cultivated do. ...	42,982

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops	2	4	to	1	2	
Gardens	3	0				

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
95,880	53,102	—42,778	44

The average rate fell from Rs. 2-5-10 to Rs. 1-5-4 per cultivated acre, and was Rs. 1-2-6 per arable acre. The settlement was introduced in 1857-58.

IV.—Amulnair Taluqa (Tapti Valley).

	Acres.
Government arable area (1856-57)...	241,550
Ditto cultivated do. ...	85,077

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops	2	4	to	1	8	
Well-lands	3	0				
Dam-lands	5	0				

Seven per cent. of the cultivated area was irrigated, chiefly from wells.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,50,155	1,08,058	—42,097	28

Thus the average incidence per cultivated acre was reduced from Rs. 1-12-3 to Rs. 1-4-4, and was Rs. 1-1-4 per arable acre. The southern half of this taluqa is comparatively poor and jungly. The new rates were introduced in 1859-60.

V.—Erandol Taluqa (Tapti Valley).

	Acres.
Government arable area ...	214,296
	Acres.
Government cultivated area (1857-58)	97,757

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops	2	4	to	1	14	
Well-lands	3	0				

(Irrigation percentage 2·6)

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,70,772	1,48,324	—22,448	13

The average incidence per cultivated acre was Rs. 1-8-3 and Rs. 1-1-6 per arable acre. The settlement runs from 1858-59.

VI.—Nasirabad Taluqa (Tapti Valley).

	Acres.
Government arable area (1858-59) ...	163,948
Ditto cultivated do. ...	90,774

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops ...	3	0	to	1	12	
Well-lands ...	3	8	„	3	0	
Dam-lands ...	5	0	„	3	8	

Irrigation percentage 1·66. The area under dams is insignificant.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,74,891	1,44,169	—30,722	18

This gives an average rate of Rs. 1-9-5 on cultivation, and of Rs. 1-4-9 per arable acre.

The settlement runs from 1859-60.

VII.—Virdhal Taluqa.

	Acres.
Government arable area ...	130,136
Ditto cultivated do. ...	60,798

(1·66 per cent. irrigated, all from wells).

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crops ...	2	8	to	1	8
Well-lands ...	3	0			

This taluqa generally resembles Amulnair. Water is scarce.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,18,053	91,091	—26,962	23

The average revenue incidence on cultivation was Rs. 1-8-0 and Rs. 1-2-2 per arable acre.

The settlement runs from 1861-62.

VIII.—Nandurbar Taluqa.

	Acres.
Government arable area ...	113,221
Ditto cultivated do. ...	32,664

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crops ...	2	8	to	1	6
Well-lands ...	3	0	„	2	8

Only 0·7 per cent. of the cultivated area was irrigated from wells. Water is scarce in this taluqa, which, like Virdhal,

is bare and treeless, with barren rocky tracts in the south.

Old assessment.	New assessment.	Difference.	Per centage.
Rs.	Rs.	Rs.	
64,610	51,610	—13,000	21

giving an average rate of Rs. 1-7-1 per cultivated acre, and Rs. 1-2-5 per arable acre. The settlement runs from 1862-63.

IX.—Songier Petta.

	Acres.
Government arable area ...	102,564
Ditto cultivated do. ...	32,965

(3½ per cent. under wells.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops	2	4 to	1	10
Well-lands	3	0		

This is a comparatively rocky and barren tract, producing chiefly bajra.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
35,523	27,422	—8,101	23

The average rate was Re. 0-13-4 per cultivated acre, and 9½ annas per arable acre. But the local Government raised the highest dry-crop rate to Rs. 2-4-0, and made other modifications, diminishing the loss of revenue by more than Rs. 2,000.

The settlement runs from 1863-64.

X.—118 villages of the Sultanpur taluqa.

	Acres.
Government arable land ...	130,421
Ditto cultivated do. ...	91,164

(About one per cent. irrigated, half from dams.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops	3	0 to	1	12
Well-lands	3	0		

The survey added nearly 10 per cent. to the recorded cultivated area.

One quarter of the population are Bheels. The taluqa lies between the Satpuras and the Tapti, and is all rich black soil, but jungle reclamation had only begun when the survey was introduced in 1854. At settlement there were

no made-roads, and the railway is at a tance.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,83,564	1,81,925	—1,639	0·9

This gave an average rate of Rs. 1-15 per cultivated acre. Including ara waste, the rate was Rs. 1-13-4.

The settlement was introduced 1863-64.

XI.—Jamnair Taluqa.

	Acres.
Government arable area ...	263,82
Ditto cultivated do. ...	151,42

(2·1 per cent. irrigated, all from wells.)

	Maximum rates		
	Rs.	As.	Rs.
Dry crops	3	0	to 1
Well-lands	3	0	„ 2

The survey increased recorded culti tion by 16 per cent.

This taluqa is described as a serie elevated and depressed lands, of no gr general fertility, but with good soil in valleys, and on some of the north plateaux. The railway crosses a cor of it, and has one station in the talu Financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,54,414	1,73,625	19,211	1·25

giving an average rate of Rs. 1-2-3 on cu vation, and of 15 annas on cultivation a arable waste together.

The settlement was introduced 1863-64.

XII.—Dhulia Taluqa (122 *villages*).

	Acres.
Government arable area ...	188,992
Ditto cultivated do. ...	59,454

	Maximum rates.		
	Rs.	As.	Rs. A
Dry crops	2	6	to 1 14
Well-lands	3	0	

More than 6 per cent. of the cultivat area was irrigated, chiefly from wel

This taluqa consists of two valleys separated by a range of hills. The soil is generally inferior, black soil occurring only in patches.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
63,641	60,730	—2,911	4·6

The average rate on cultivation was reduced from Rs. 1-1-2 to Rs. 1-0-4. On cultivation and arable waste together, the new rate was Re. 0-11-6.

The settlement was introduced in 1863-64.

XIII.—Chalisgaum Taluqa (140 *villages*).

	Acres.
Government arable area ...	215,889
Ditto cultivated do. ...	62,952

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops	2 8	to 1 0
Well-lands	3 0	

(3½ per cent. of the cultivated area was irrigated, all, save 90 acres, from wells.)

This taluqa lies to the south of Dhulia, and consists partly of a black soil plateau and partly of low lands of inferior stony soil. Water is scarce, and the villages on the tableland are inconveniently situated as regards markets and the railway, which crosses the middle of the taluqa.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
60,259	61,490	1,231	2

This raised the average rate on cultivation from 15⅓ to 15½ annas: on the total assessable area it was 12 annas 2 pie.

The settlement runs from 1863-64.

XIV.—Warangaum Taluqa.

	Acres.
Government arable area ...	179,692
Ditto cultivated do. ...	106,677

(Irrigation is all from wells; the extent is not stated.)

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops	3 0	to 1 12
Well-lands	3 4	„ 2 0

The survey added 60 per cent. to the recorded cultivated area.

This taluqa lies south of Sauda. The railway crosses its western portion. The cultivated area is good black soil.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,18,772	1,47,086	28,314	24

The average rate was Rs. 1-6-0 per acre on cultivation, and Rs. 1-1-7 per acre of arable area.

XV.—Lohara Taluqa.

		Acres.
Government arable area	...	191,791
Ditto cultivated do.	...	150,204

(2 per cent. irrigated, all from wells.)

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops	3	0 to	2	4
Well-lands	3	4 „	2	8

The survey added 34 per cent. to the recorded cultivated area.

This taluqa adjoins Jamnair and Nasirabad. The railway runs through the entire western length of it; water is plentiful, and the land is good black soil.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,54,125	2,04,953	50,828	33

This gave an average rate of Rs. 1-5-9 per acre on cultivation, and of Rs. 1-3-3 per acre on arable area.

The settlement of both taluqas took effect from 1864-65.

Nine villages of Chalisgaum were simultaneously settled, with the following results:

		Acres.
Government arable area	...	25,672
Ditto cultivated do.	...	8,078

(Survey addition to recorded cultivation, 30 per cent.)

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
7,723	6,554	—1,169	15

	Rs.	As.	P.
Average rate on cultivation ...	0	13	0
Ditto on assessable area ...	0	9	6

XVII.—Pimpalnair Subah.

		Acres.
Government arable area	...	157,601
Ditto cultivated do.	...	65,425

(6¾ per cent. watered from dams.)

The survey added 43 per cent. to recorded cultivation.

This tract lies partly above and partly below the Ghauts. Maximum dry crop rates range from Rs. 2 to 12 annas (below the Ghauts). The maximum rate for dam-watered lands was Rs. 15.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
75,170	65,005	—10,165	13·3

This includes 24 jungle villages formerly under the *outbundy*—or plough (tax) system. Here the assessments were lighter, averaging 4¾ annas per cultivated acre for dry crops, and Rs. 1-13-3 for dam-lands. In the rest of the taluqa, the respective averages were 7¾ annas and Rs. 10-3-10; and the general average rate was Rs. 1-0-2 per acre of cultivation, and Rs. 0-9-8 per acre of arable area.

The settlement was introduced in 1869-70.

THE DECCAN.

GENERAL REMARKS.

THE districts classed together as belonging to the Deccan are the following :

Satara.
Belgaum.
Ahmadnagar.
Nasik.
Dharwar.
Kaladgi, which was formed out of part of the original Sholapur Collectorate and part of the original Belgaum Collectorate and part of Satara.
Poona.
Sholapur.

Present state of Deccan settlements.

With the exception of Satara, which will not come under revision of settlement till 1884-85, the old regular settlements have expired in more or less of the taluqas of these districts, and revision has been going on since 1867-68. Sholapur has been almost completely re-settled; Poona, partially; Dharwar, completely, excepting a few villages originally settled after the bulk of the Collectorate; Kaladgi is finished so far as regards the portion, (about half the Collectorate) which belonged to the original Sholapur Collectorate; and re-settlement is in progress in Nasik and Ahmadnagar, and was begun last year (1878-79) in Belgaum.

Some general characteristics of the new Deccan settlements may be explained here more conveniently than in the district notes.

Changes introduced at revision.

A noticeable feature of the former settlement was a tendency to assess the poorer or red soil at relatively high rates. At that time, when communications, markets, and capital were deficient, the soils relatively most profitable were those which required least trouble and expenditure to cultivate. With the improvement of the condition of the cultivators, the black soil gradually assumed its proper value, and the present settlement has redressed the inequality of the old assessments, which were bearing with disproportionate weight on the poorer soils. The old survey numbers of unwieldy size (60 to 70 acres) have been broken up, and a considerable extent has

been added to the assessable area by more careful distinction between unassessed and unarable land.

The survey added considerably to the recorded area of cultivation. This is partly accounted for by encroachment upon Government waste land, and partly by more accurate measurement of roads, nullas, and village sites, and by the inclusion in the recorded area of the strips of one chain or 11 yards wide, which the former survey had left as neutral ground on village boundaries, but which had disappeared as the people of the villages cultivated up to within a yard or so of each other.

It was also the practice of the old survey, not only to make a liberal deduction for portions supposed unculturable in each survey number, but also to leave unmeasured and unassessed large areas of light poor soils on the slopes of hills and elsewhere.

Treatment of irrigated lands.

Under the old settlement a water-rate of about Rs. 2 per acre used to be levied on well lands. Lands hitherto paying this rate have now been assessed at maximum dry-crop rates, while lands under wells built during the term of last settlement have been assessed as ordinary dry-crop lands, so as to avoid taxing expenditure on improvements, and to encourage the sinking of wells in a tract where the rainfall is generally light and uncertain.

Garden lands watered from tanks or dams are assessed at a water-rate, in addition to the dry-crop valuation of the land, in Poona, Nasik, and Sholapur. This rate varies from one rupee to ten rupees per acre. It is imposed upon the area actually under garden crops, and also upon about one-half the extra area prepared for cultivation in rotation. In Kaladgi and Dharwar consolidated assessments are the rule, ranging from five to fifteen rupees per acre. Rice lands are everywhere assessed at consolidated rates; but rice lands converted from dry-crop lands during the currency of the old settlement are liable to dry-crop rates only unless they are watered from sources on which the Government has a claim.

Reduction of revised assessments in 1874.

In October 1874 the Bombay Government, reviewing the results of the new settlements in certain taluqas of the Poona and Sholapur Collectorates, thought it advisable—in consideration of the remarkable fall of prices which had taken

place of late years, and of the improbability that prices would continue to rule so high as in the last decade of the original settlements—to lay down precise instructions for the limitation of increases (in those collectorates only) in future revisions, as also for the modification of past revisions so as to bring them into accord with the same principles. A portion of this Resolution, which would have permanently exempted unassessed portions of occupied 'numbers', was cancelled by orders of the Government of India. The remainder contained three principles:

(1) the increase of revenue in the case of a taluqa or group of villages brought under the same maximum dry-crop rate was not to exceed 33 per cent.,

(2) the sanction of the Government was to be obtained to enhancements exceeding 66 per cent. in single villages, and

(3) to enhancements exceeding 100 per cent. on individual holdings.

As to the third point, it was prescribed that appropriations from waste were invariably to be assessed, at whatever enhancement, and that enhancements arising from more correct valuation of soil should also stand, provided that they did not press unduly on the poorer soils.

Accordingly, the settlements already made were revised at reduced rates, obtained by lowering the higher dry-crop rates by two annas, and reducing the valuation of lighter soils. The ultimate results are shewn in the district notes.

SATARA.

Area	...	4,804 *sq. miles.*
Population	...	1,061,022.

Administration Report, 1878-79.
Taluqa settlement reports.

NOTE—The original Satara State has been broken up a good deal. Part has gone to Sholapur Collectorate, part to Kaladgi Collectorate and part of old Belgaum Collectorate has been transferred to the present Satara Collectorate.

THE Satara district came under British rule in 1848, and was administered on the Mahratta revenue system for ten years. That system was based upon assessments made in ancient times, but greatly enhanced under the rule of the Peshwas in the taluqas near the capital, while in those more remote, the taluqa and village officials used to settle matters among themselves with comparatively little control from head-quarters. Large annual remissions were a principal feature of the system, being usually granted to influential ryots who did not need them. About 1853-54, a stricter management was introduced, and the annual amount of remissions rapidly decreased. The first regular settlement was made in 1855-56, and the district has been settled between that year and 1863-64. Despite the inequality and frequent severity of the old assessments, the condition of the people at settlement was, on the whole, pretty good, though the large proportion of pauper ryots is noted by the assessing officers. The survey revealed large areas of unrecorded cultivation, amounting to 60 per cent., in some taluqas.

The district lies immediately east of the Ghauts, and consists partly of the valleys of the Krishna and other rivers, partly of the plateau and hill country lying among the spurs which branch out eastwards from that range. In the east, it is essentially a dry-crop district, rice cultivation being almost unknown, though the general proximity of water to the surface enables a considerable area to be watered from wells for garden cultivation (2 to 9 per cent. in the various taluqas). There is also a large area of land watered by channels from dams on streams. In the western taluqas, both rice and garden land abound. Though not fertile on the whole, the eastern portion of the district contains some good black soil. In the western part their are some tracts of the very highest fertility. The east of Satara ranges with the Deccan generally in fertility. The west is very superior in every way—soil, climate and productions. Spiked millet (bajri) and Indian millet (jawar) are the principal

crops; wheat, cotton, and rice are much grown in some parts of the Collectorate. Sugarcane is largely grown, and ground-nuts to a considerable extent, in the western taluqas. The district is well off for roads and markets; but there is no railway within its limits.

The area of the district has undergone considerable changes since settlement. Taking it as originally constituted, the financial results of the settlement have been as follows:*

Old assessment.	New assessment, (1877-78.)	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
13,25,304	13,81,248	55,944	4·22	6,16,007

The increase of assessment was made in the eastern and remote taluqas; it mounted as high as 29 per cent. in Pandarpur. In the taluqas near the capital, the assessments were already too high, and were reduced by 6 to 11 per cent.

The maximum rates adopted, and the average rates resulting from them, varied in the different taluqas as follows:

	Maximum rates.		Average rate.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Dry-crop ...	3 0	to 0 9	2 1 10	to 0 6 10
Rice ...	9 0	„ 5 0		
Gardens ...	6 8	„ 1 12		

The average rate for the district as at present constituted is 13 annas 8 pie per acre of cultivation.

The district will come under revision of settlement in 1884-85.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Pandarpur Taluqa.

(*a.*) Seventy-one villages.

Pandarpur is an arid and treeless taluqa, with poor soil and generally inferior crops. Maximum dry-crop rates ranged from 15

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* As *at present* constituted, the revenue of the district for 1877-78 compares as follows with the revenue for 1854-55:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
10,99,724	11,85,733	85,999	7·8

The taluqa abstracts relate to the district in its present shape.

to 9 annas. The average garden-rate was Rs. 1-12-0. Financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
61,081	78,817	17,736	29

giving an average rate of 7 annas 7 pie per acre of the old recorded area of cultivation. The survey area in all the taluqas was considerably larger.

The settlement was introduced in 1857-58.

(*b.*) Sixty-nine villages.

These villages are somewhat better off as regards markets and rainfall. Maximum dry-crop rates ranged from Rs. 1-2 to 14 annas: the garden average was Rs. 1-14. Financial results were—

Old assessment (1856-57).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
71,925	92,578	20,653	29

giving an average rate of 6 annas 10 pie. The settlement runs from 1858-59.

II.—Khatao Taluqa.

(*a.*) Twenty-seven villages.

These villages are situated similarly to the above, and have maximum dry-crop rates of one rupee and 15 annas. Financial results were—

Old assessment (1856-57).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
21,280	31,240	9,960	47

giving an average rate of 7 annas 10 pie.

The settlement runs from 1858-59.

(*b.*) 105 villages.

The survey added more than 100,000 acres to the recorded area of cultivation.

These villages differ from the 27 preceding villages in being situated on the plateau above the Mahadeo hills. The western villages are superior both in soil and climate to the eastern. Maximum dry-crop rates range from Rs. 1-14 to one rupee, and from Rs. 3-8 to Rs. 2 for gardens. Financial results were—

Old assessment (1857-58).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
91,236	1,03,567	12,331	13·4

giving an average rate of 9 annas 11 pie.

The settlement runs from 1859-60.

III.—Khanapur Taluqa.

(*a.*) Thirty-seven villages.

The survey added nearly 60 per cent. to the old recorded area of cultivation.

These villages adjoin and resemble those in the western (or better) half of Khatao. Maximum dry-crop rates were Rs. 1-14 to Rs. 1-6, with Rs. 3-8 to Rs. 2-4 for gardens. Financial results were—

Old assessment (1858-59).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
37,208	43,457	6,249	17

giving an average rate of 9 annas 4 pie.

The settlement runs from 1859-60.

(*b.*) Mamlatdar's division.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops	2	0 to	1	6
Gardens	5	0 „	3	12

Estimated financial results were—

Old assessment (1858-59).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
67,394	67,432	38	...

This gives an average rate of one rupee per cultivated acre. The western villages are well off for rainfall and markets.

The settlement was introduced in 1860-61.

IV.—Koregaum Taluqa.

The settlement area was 60 per cent. in excess of the old recorded area of cultivation. The proportion of garden land is 3·7 per cent.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops	3	0 to	2	8
Gardens	6	8 „	4	0

This taluqa has much excellent soil, and is very favourably circumstanced as regards climate, roads and markets.

Old assessment (1858-59).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,49,535	1,36,949	—12,586	8

giving an average rate of Rs. 1-5-9 per cultivated acre.

The settlement was introduced in 1860-61.

V.—Jauli Taluqa.

This taluqa lies close to the Mahableshwar hills. The rainfall is exceedingly heavy in its western extremity, and decreases as the distance from the hills increases, till in the eastern parts it is light enough for good dry crops. The taluqa enjoys the advantage of good markets in Satara, Mahableshwar and Chiplun. Maximum rates were—

	Rs.	As.		Rs.	As.
Dry crops	3	0	to	1	1
Rice	9	0	„	7	0
Gardens (average rate) ...	5	4	„	3	4

The high rates on rice-lands in this and other taluqas are explained by the fact that the best of these lands here and elsewhere in the west of Satara are capable of a rotation of crops, including sugarcane, every third or fourth year.

Estimated financial results were—

Old assessment (1860-61).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
41,579	40,020	—1,559	3·7

The settlement runs from 1862-63.

VI.—Satara Taluqa.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crop	3	0	to	1	0
Rice	9	0	„	6	0
Gardens (average rate) ...	5	4	„	3	0

The central and eastern portion of this taluqa, farthest from the Ghauts, has a moderate rainfall, and produces good dry crops, often with double harvests. The western portion is in or under the hills, and produces hill crops only (nachni, &c.). Excepting hill villages, this is an excellent taluqa as regards both soil and climate.

Old assessment (1860-61).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
91,885	85,918	—5,967	6·4

This gives an average of Rs. 1-13-5 per cultivated acre.

The settlement runs from 1862-63.

VII.—Targaum Taluqa.

(*a.*) Fifty-five villages.

The settlement area was 20 per cent. in excess of the old recorded area of cultivation.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crops	3	0	to	1	0
Rice	9	0	„	5	0
Gardens (average rate) ...	5	12	„	2	8

In physical features, this taluqa resembles the Satara taluqa, of which it now forms part.

Old assessment (1861-62).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
93,338	86,534	—6,804	7·3

This gives an average rate of Rs 1-6-4 per acre of the old recorded area of cultivation.

The settlement runs from 1862-63.

(*b.*) Fifty-three villages.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crops ...	... 2	2	to	1	0
Rice and gardens	... 7	0	„	5	0

The rice and garden area is inconsiderable. Most of the occupied land consists of hill fields intermittently cultivated. The inhabitants of the hill tracts are poor.

Old assessment (1861-62).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
10,807	13,881	3,074	29

This gives an average rate of seven annas per cultivated acre.

The settlement runs from 1863-64.

VIII.—Karâr Taluqa.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crops ...	... 3	0	to	1	0
Rice and gardens	... 9	0	„	5	0

This taluqa resembles those of Satara and Targaum, into which it has been absorbed since settlement. The eastern parts contain much rich black soil in the river valleys, growing superior dry crops. Going westward, the rainfall increases, till in the Ghauts only hill crops can be grown.

Old assessment (1861-62).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,85,762	1,65,297	—20,475	11

This gives an average rate of Rs. 2-1-10 per cultivated acre.

The settlement runs from 1863-64.

Page 10.

IX.—Walwa Taluqa.

The survey addition to recorded cultivation was more than 25 per cent.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crops ...	... 2	10	to	1	0
Rice and gardens	... 8	0	„	5	0

The western part of the taluqa is hilly, with much stony soil, and too heavy a rainfall for dry crops; rice is grown here. The eastern part is good black soil, with moderate rainfall. Communications are not good. On the whole, however, the taluqa is very favourably circumstanced as regards both soil and rainfall, except in the hill villages. Sugarcane is much grown.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,34,605	2,53,491	19,114	8

This gives an average rate of Rs. 1-9-9 per acre of the cultivated area as ascertained by survey.

The settlement runs from 1863-64.

BELGAUM.

Area	...	4,593 *sq. miles.*
Population	...	938,750.

THE Belgaum district is still under the regular settlements introduced between 1851 and 1857. At that time the cultivators were in the state of indebtedness and penury then common throughout the Deccan. The old assessments were exceedingly unequal, as regards not only adjoining and similar villages, but also adjoining and similar fields in the same village. They were also very numerous, rice-rates varying from 1½ annas to 40 rupees, and dry-crop rates from one anna to five rupees. The assessments bore most heavily upon the superior soils, which had consequently been falling out of cultivation; and both revenue and cultivation were steadily declining, notwithstanding heavy remissions, till the survey of 1849 gave hopes of better things.

Taluqa settlement reports.

Administration report for 1878-79.

The climate and soil of the district vary with the distance from the Ghauts. In and under the hills the rainfall is too heavy for good dry crops, and rice is the main staple; the poorer soils also predominate, and there are large areas of waste. The extreme eastern part of the district consists mainly of good black soil, but the rainfall is uncertain. In the central part of the Collectorate the rainfall is usually good and certain. Indian millet (jawâr) is the principal food-crop, and bajri and rice come next in importance; wheat is comparatively little grown. One-seventh of the cultivated area of 1878-79 was under cotton.

The district has no railway, but is fairly opened up by roads, except in the hill tracts. Traffic passes chiefly over the Ghaut highways to the ports of Ratnagiri and Kânara. Only 1½ per cent. of the cultivated area is under irrigation.

The result of the settlements of 1851-57 was of course a large immediate decrease of revenue. In the taluqas noted on below, the loss was as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
7,63,578	5,80,142	—1,83,436	24

But the revenue of the whole district, as *originally* constituted, for 1877-78, compares as follows with the revenue of the years next before settlement :*

Old assessment.	New assessment (1877-78).	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
10,20,221	12,05,929	1,85,708	18	6,56,758

The maximum rates used in the settlement of the taluqas noted below, and the average rates resulting from their application, varied as follows :

	Maximum rates.		Average rates.
	Rs. As.	Rs. As.	Rs. As. P. Rs. A. P.
Dry crops	2 4	to 0 7	1 8 10 to 0 7 6
Rice ...	12 0	„ 7 0	
Gardens ...	5 0	„ 4 0	

The general incidence of the new revenue demand per *arable* acre in these taluqas was 11 annas.

The settlement of the district began to expire in 1878-79. Revision has begun, and one taluqa (Parasgad) has been resettled this year (1880-81), with the following results :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,20,669	1,69,867	49,198	40·8	63,888

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Badami Taluqa.

Paras. 32, 33.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops ...	1 4	to 1 0
Rice ...	4 0	...
Gardens ...	5 0	...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
71,334	51,225	—20,109	28

Para. 34.

This reduced the average rate per cultivated acre from $13\frac{1}{4}$ to $9\frac{1}{2}$ annas. Rice and garden land occupied only 0·6 per cent. of the cultivated area.

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* The district has undergone considerable changes of area. As *at present* constituted, its revenue compares as follows with the pre-settlement revenue of the same area :

Old assessment.	New assessment. (1877-78).	Difference.	Per-centage.
Rs.	Rs.	Rs.	
6,99,326	8,29,917	1,30,591	18·8

II.—Baghalkot Taluqa.

Para. 59.

	Maximum rates. Rs. As.	Rs. As.
Dry crop ...	... 1 4	to 0 14
Rice ...	... 4 0	...
Gardens ...	... 5 0	...

Para. 61.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
59,224	42,890	—16,334	27·7

This reduced the average rate from 13⅓ to 9⅔ annas per cultivated acre. Rice and garden land occupied only 0·2 per cent. of the cultivated area.

Both these settlements were introduced in 1851-52. G. O., para. 3.

III.—Hoongoond Taluqa.

	Maximum rates. Rs. As.	Rs. As.
Dry crops ...	... 1 0	to 0 14

	Rs. As. P.
Rice (average rate) ...	1 12 4
Gardens (ditto) ...	1 8 8

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
81,329	64,041	—17,288	21

This reduced the average rate from annas 12 to annas 9-5. This taluqa has a tolerably certain rainfall, and consists chiefly of good black soil, well cultivated, and producing much cotton as well as the ordinary dry crops. The area of rice and garden land, however, is exceedingly small.

The settlement was introduced in 1851-52. Extension of cultivation raised the net collections to Rs. 90,207 in 1862-63.

IV.—53 villages of Uthni.

	Maximum rates. Rs. As.	Rs. As.
Dry crop ...	... 0 14	to 0 12

	Rs. As. P.
Garden average rate ...	1 4 3

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
47,334	22,923	—24,411	52

This reduced the average rate from 8⅓ to 6½ annas. The soil here is generally shallow and poor, with patches of black soil. The rainfall is precarious. Rice and garden land occupies only 0·73 per cent. of the cultivated area.

The settlement was introduced in 1851-52. By 1862-63 the net collections had risen to Rs. 69,659.

V.—Remainder of Uthni Taluqa.

Here 2½ per cent. of the cultivated area is garden land.

	Maximum rates.	
	Rs. As.	Rs. As
Dry crops	2 0 to	0 14
	Rs. As.	P
Garden average rate... ...	2 3	5

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
20,061	19,022	—1,039	5

This reduced the average rate from 9 annas 11 pie to 8 annas 10 pie.

The settlement was introduced in 1852-53. By 1862-63 net collections had risen to Rs. 22,599.

VI.—Yadwar Petta.

This tract resembles the Uthni Taluqa. It was settled in the same year, and was assessed at the same rates, with these results—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
7,669	6,593	—1,076	14·6

reducing the average rate from 8 to 7⅓ annas. By 1862-63 the net collections had risen to Rs. 10,550.

VII.—Tasgaum Taluqa.

This taluqa was a jagir which lapsed in 1850; it was excessively highly assessed by the jagirdar, and the old assessments were (for want of others) retained in the early years (two or three only) of British rule, antecedent to the settlement.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops ...	2 0 to	0 14
	Rs. As.	P.
Garden average rate ...	2 15	8

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
89,489	60,056	—29,433	33

The average rate per acre fell from Rs. 1-11-2 to Rs. 1-2-3. The taluqa has, on the whole, good soil, and a tolerably certain rainfall. The garden area is 2·3 per cent. of the total cultivated area.

The settlement was introduced in 1852-53. By 1862-63 the net collections had risen to Rs. 71,473.

VIII.—Sampgaum Taluqa.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops ...	2 4 to	1 8

	Rs. As. P.
Rice average rate ...	3 9 6
Garden ditto ...	3 9 5

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,44,476	1,22,773	—21,703	15

The average rate fell from Rs. 1-8-5 to Rs. 1-4-9. The rainfall here is ample and certain, and the taluqa is well off for markets. Except the hilly western portion, the taluqa belongs to the great black or cotton soil plain. Three per cent. of the cultivated area is rice land, and one per cent. gardens.

The settlement was introduced in 1852-53. By 1862-63 the net collections had risen to Rs. 1,55,031.

IX.—Nine villages of Padshahpur.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops	1 10 to	1 6
Rice	12 0 „	9 0

The 12-rupee rate was in Belgaum town.

	Rs. As. P.
Garden average rate ...	3 15 5

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
25,887	20,781	—5,106	20

The average rate was Rs. 3-2-10 in Belgaum, and Rs. 2-3-6 generally. These villages have a very wet climate, and rice is the staple crop, followed by sugarcane, wheat or gram.

The settlement was introduced in 1852-53. By 1862-63 the net collections had risen to Rs. 25,428.

X.—Rest of Padshahpur.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops ...	2 0 to	1 4

	Rs. As. P.
Rice average rate... ...	3 14 1
Garden ditto	3 7 3

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
16,834	12,530	4,304	26

The average rate fell from Rs. 1-6-4 to Rs. 1-0-7. This tract is partly hilly, and partly a valley, with superior soil and a tolerably certain rainfall. More than half its area is hilly and unarable. Rice and garden lands occupy 1·66 per cent. of the cultivated area.

The settlement was introduced in 1853-54. By 1865-66 the net collections had risen to Rs. 15,360.

XI.—Ten villages of Padshahpur.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crop ...	... 0 7	...
Rice ...	... 6 0	to 5 0

Old assessment (1854-55).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,097	1,833	—264	12·5

These villages are in or under the Ghauts.

The settlement seems to have been introduced in 1856-57.

XII.—Chikodi Taluqa.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crop ...	... 2 0	to 0 12

	Rs. As. P.
Garden average rate	... 3 12 0

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,38,780	99,621	—39,159	29

This reduced the average rate from Rs. 1-4-6 to Rs. 0-14-9. This taluqa is partly black soil, partly 'mal', and the rainfall varies according to the distance from the Ghauts. Three per cent. of the cultivated area is garden land.

The settlement was introduced in 1853-54. By 1865-66 the net collections had risen to Rs. 1,31,192.

XIII.—Kittoor Division of Bedi Taluqa.

Here the area of rice land is 32 per cent. of the total area of cultivation.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crops ...	... 1 10	to 1 2
Rice ...	... 8 0	...

	Rs. As. P.	
Average rice rate ...	3 2 0	
Do. gardens ...	3 14 1	(18 acres only).

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
39,782	37,725	—2,057	5

The average rate per acre was reduced from Rs. 1-8-1 to Rs. 1-6-10. Rice is the staple of this tract, except in the eastern districts, where the rainfall is light enough to permit of dry crop cultivation also.

The settlement was introduced in 1854-55. By 1865-66 the collections had risen to Rs. 45,643.

XIV.—123 *villages of Bedi Taluqa.*

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crop	0	14	to 0	8
Rice	7	0	„ 4	0

These villages lie in or under the Ghauts, and the rainfall is too heavy for good dry crops.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
19,302	18,129	1,173	6

The settlement was introduced in 1855-56.

XV.—*Kagwar Mahal.*

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crop	2	0	to 0	14
Rice	7	0	.....	
Gardens	5	0	to 4	0

The Kagwar estate lapses on the death of the jagirdar in 1857. Part of it (the Chimalgi mahal) has been settled in Sholapur. The Belgaum portion consists partly of villages in the plains, partly of rice-growing villages in or under the Ghauts.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
61,266	66,773	5,507	8·8

The settlement was introduced in 1860-61.

AHMADNAGAR.

Area	...	6,647 *sq. miles.*
Population	...	773,938.

THE Ahmadnagar district became British territory in 1818. For a time no change was made in the rates of assessment which had existed under the Peshwa's government. These were no fewer than 21 in number for dry crops alone, varying from four annas to two rupees per bigha, while in some cases the entire lands of a village were assessed at a single all-round rate, inequalities being prevented by varying the size of the bigha. The old Deccan survey was introduced into part of the district in 1825-28, but its measurements and classifications were never put to any use. Holdings were not numbered till 1833, when field registers were opened for the first time. The unequal incidence of the revenue demand continued to be more and more severely felt, notwithstanding large annual remissions, the exemption of uncultivated portions of holdings, and triennial or quadrennial leases at reduced rates. A systematic reduction of the rates by 20 and 25 per cent. was made in some taluqas in 1834-37. All these devices, however, proved inadequate, and when the regular survey and settlement began, the cultivators were generally in a condition of depression and impoverishment. The surveys were made in 1845 and 1846, and the settlements were introduced in 1849-50 and 1851-52. The result has been an increase of more than 100 per cent. in the cultivated area, so that at present (1878-79) only one-eleventh of the arable area of the district remains uncultivated.

The soils of the district vary from the fertile black soil of the river valleys to the gravelly soil of the tracts interspersed with hills. Over a large part of the district a light soil, easily worked, is interspersed with elevated patches of hard unculturable ground. The country is bare and treeless for the most part, producing chiefly jawar and bajri, but also wheat and gram. One-twentieth of the cultivated area of 1878-79 was under wheat, and 1·7 per cent. was irrigated. The chord line of railway from Dhond to

Manmâd runs through the district from south to north for a distance of 122 miles.

Ahmadnagar was one of the first districts taken up by the Deccan survey and settlement of 1839. The settlement then made is still current over the greater part of the district, but has only a few years or a few months longer to run.

Administration Report, 1869-70.

Maximum dry-crop rates vary from Rs. 1-8 to 12 annas per acre. Garden lands, whether watered from wells or dams, were assessed at consolidated rates ranging as high as six rupees per acre, and giving average rates which varied from Rs. 3-2-3 to Rs. 1-13-6.

The immediate financial result of the settlement was a loss of revenue amounting to more than 10 per cent. But this has been more than recovered by extension of cultivation, as the following figures shew :

Old assessment.	New assessment (1875-76).	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
7,78,985	10,36,384	2,57,399	33	6,36,645

The general average rate per cultivated acre is between 7 and 8 annas.

The last of the old regular settlements expires in 1882-83. Re-settlement operations are already in progress. Their results, so far as they have gone, are shewn as follows :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,15,665	4,24,713	1,09,048	34·5	2,24,391

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

A.—TALUQAS WHICH ARE UNDER THE FIRST REGULAR SETTLEMENT.

I.—Rahuri Taluqa.

There were 2,170 acres of garden land at settlement, all irrigated from wells.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops ...	1	3	to 1	4
Gardens ...	3	0	...	

Old assessment	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
58,950	47,484	—11,466	20

	Total cultivation.	Total arable area.	Gardens only.
	As.	As. P.	Rs. As. P.
Average rates ...	11	9 4	2 2 8

Extension of cultivation raised the revenue collections to Rs. 1,22,000 in 1865-66,

giving an average rate of 10 annas 4 pie p cultivated acre. Cultivation had increas 240 per cent.

The settlement runs for 30 years fro 1849-50, thus expiring this year (1880).

II.—Six taluqas.

The irrigated area at settlement w about 1½ per cent. of the total cultivat area.

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Dry crops	... 1	8	to	0	12	
Well-lands	... 6	0	„	2	8	
Dam-lands	... 6	0	„	5	0	

The survey in these taluqas began i 1846, and the new assessments came int force in 1851-52 and 1852-53.

Financial results were—

Taluqa.	Old assessment.	New assessment.	Difference.	Per- centa
	Rs.	Rs.	Rs.	
Nawasseh ...	1,61,787	87,671	—74,116	46
Kurdeh ...	1,69,583	98,236	—71,347	42
Nagar ...	1,00,160	61,274	—38,886	38
Kortee ...	1,09,587	62,048	—47,539	44
Sheogaon ...	54,460	35,117	—19,343	35
Jamkhair ...	70,943	41,792	—29,151	41
TOTAL ...	6,66,520	3,86,138	—2,80,382	42

This gave average rates as follow :

	Total cultivation.	Total arable area.	Gardens onl
	As. P.	As. P.	Rs. As. I
Nawasseh ...	8 10	7 7	2 2 7
Kurdeh ...	6 11	6 2	2 9 9
Nagar ...	10 5	8 8	3 2 3
Kortee ...	4 11	4 6	2 14 3
Sheogaon ...	9 1	7 4	2 1 2
Jamkhair ...	7 1	6 5	1 13 6

By 1868-69 the revenue demand ha been raised, by extension of cultivatio to Rs. 5,98,102, giving an average rate 4 annas 7 pie per cultivated acre. Tl cultivated area had doubled.

The settlement expires in 1881-82 ar 1882-83.

B.—TALUQAS WHICH HAVE COME UNDE REVISION OF SETTLEMENT.—These are on a part of the area which has come und revision of settlement. The complete fina cial results are those shewn on the prece ing page.

III.—Fifty-three villages of Koparga Taluqa.

These were part of the old Patod district, and were settled in 1877-7 with 136 villages of Nasik*.

* *Vide* note on Nasik settlements.

	Acres.
Government arable area ...	128,187
Ditto cultivated do. ...	127,234

(3·3 per cent. well-land.)

Old assessment.	New assessment.	Difference.	Per- centage.
Rs.	Rs.	Rs.	
85,609	1,14,396	28,787	33·6

Average rate, Rs. 0-14-5 per cultivated acre.

IV.—Thirty-six villages of Kopargaon, and five villages of Sangamner Taluqa.

These were settled in 1876-77 as part of the Sinnar taluqa of the Nasik district.

		Acres.
Government arable area	...	84,474
Ditto cultivated do.	...	83,546
(6½ per cent. well-lands.)		

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
46,307	65,724	19,417	42

Average rate, Rs. 0-12-7 per cultivated acre.

NASIK.

Area ... 8,140 *sq. miles.*
Population ... 734,386.

Taluqa Settlement Reports.

THE Nasik district was formed in 1869-70 out of nine taluqas taken from Ahmadnagar and three from Khandesh. It consists of two parts—the lowland country, or Desh, and the Dângs, or hill-country in and about the Ghauts. The Desh taluqas were regularly settled, for the first time, between 1840 and 1846, with the following results:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,18,369	3,08,576	—1,09,793	26·2	2,02,638

But the collections rose to Rs. 4,06,229 by the end of the term of settlement.

This first regular settlement may be left out of consideration. The revised assessments have replaced it for the most part; moreover, since that date, cultivation has increased 70* per cent. in these taluqas; they have partaken of the general prosperity of the Deccan, and have been opened up by the Great Indian Peninsula Railway, which traverses this portion of the district for a length of 112 miles. The stations are connected with the chief markets by good made roads. The staple crop is bajri, but wheat is also grown to a considerable extent in some taluqas. Irrigation (mostly from wells) varies from 3½ to 10 per cent. in the different taluqas which have come under settlement. Maximum dry-crop rates vary from Rs. 2-8 to 14 annas per acre. The water-rate on dam-lands varies from Rs. 10 to Rs. 2-8.

	Acres.
* Average cultivation of first decade of old settlement	558,706
Cultivation at revision of settlement	940,254

The first of the taluqa settlements expired in 1871-72, and the present revised settlements have been coming into operation from that date to the present time.

For the Desh taluqas, the results of revision of settlement are as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,09,217	7,05,454	1,96,237	38·5	3,51,385

This gives an average rate of 13 annas 4 pie per cultivated acre. The average rates on

the different classes of cultivation vary in the different tracts settled as follows :

	Rs. As. P.	Rs. As. P.
Dry crops ...	1 1 5	to 0 8 0
Rice ...	2 14 5	.....
Gardens ...	6 14 9	to 4 6 8

The garden lands shewn above are such as are watered from dams.

Part of the revenue increase is due to the bringing on record of unassessed cultivation. The addition thus made to the recorded occupied area varied from 6 to 13 per cent. in the principal taluqas. The proportion of the new assessments to the gross produce has been variously estimated at one-ninth to one-twentieth, and, in grain valuation, at 17 to 20 lbs. of wheat or 37 lbs. of bajri.

These settlements expire between 1900 and 1905.

The Dâng country lies immediately above the Ghauts and among the ranges which branch off from them eastwards. It is a malarious and jungly country, under a primitive system of cultivation. The soil is black soil (*kali*), used for rabi crops (46 per cent.), and light or red soil (*mal*), used for kharif cultivation (50 per cent. of cultivated area). All the Dâng districts were settled between 1840 and 1848. The superior lands (black soil, rice, and garden) were surveyed, classified, and settled in regular 'numbers', but the mal lands were leased to the villagers at a lump sum (*ukti*), each individual, however, having his own holding and dues defined by the settlement officer, and recorded in a separate lease. In 1860, ukti leases of mal lands were abolished, and settlement made in regular numbers.

Revision of settlement has been going on since 1875-76, with the following results :

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
44,430	54,008	9,578	21·4

ABSTRACT OF TALUQA SETTLEMENT REPORT.

I.—89 villages of Niphar and Chandur Taluqas.

The gain in recorded cultivation by survey was 13 per cent. Nine per cent. of the cultivated area was irrigated.

	Maximum rates. Rs. As.	Rs. As.
Dry crops	2 4	to 1 8
Water-rate on dam-lands	10 0	„ 2 8

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
92,607	1,55,311	62,704	68

	Average rates. Old.			New.		
	Rs.	As.	P.	Rs.	As.	P.
Dry crops ...	0	11	2	1	1	5
All wet lands ...	3	11	0	6	7	0
General average ...	0	13	5	1	3	10

The settlement runs from 1872-73.

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II.—98 *villages of the Chandur, Nasik, Niphar, and Dindori Taluqas.*

The survey addition to recorded cultivation was 11 per cent. The irrigation percentage was 4½, that is, the percentage of the irrigated area on the whole cultivated area.

	Maximum rates. Rs.	As.		Rs.	As.
Dry crops ...	... 2	4	to	1	4
Water-rate ...	... 10	0	„	9	0

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
92,470	1,40,447	47,977	51·8

	Average rates. Old.			New.		
	Rs.	As.	P.	Rs.	As.	P.
Dry crops ...	0	7	5	0	11	3
Rice land ...	...			2	14	5
Channel-watered do. ...	3	15	6	4	6	8
General average ...	0	10	8	0	14	0

Some alteration was made in the financial results shewn above by the Government order raising the class of eight villages.

The settlement runs from 1874-75.

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III.—60 *villages of Nasik, Niphad, and Sinnar Taluqas.*

The survey addition to recorded cultivation was 11 per cent. The irrigation percentage was 10.

	Maximum rates. Rs.	As.		Rs.	As.
Dry crop ...	2	8	to	1	10
Water-rate ...	10	0	...		

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
64,682	95,881	31,199	47

Average rates were—

		Rs.	As.	P.	Rs.	As.	P.
Dry crop	...		...		0	14	7
Wet land { dry-rate	...	1	10	4			
Wet land { water-rate	...	3	5	8			
					5	0	0
General average	...				1	0	4

The circumstances of this tract are peculiarly favourable. The settlement runs from 1864-65.

IV.—136 *villages of Nandgaon, Chandur, Niphad, and Yeola Taluqas.*

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The survey addition to recorded cultivation was 8 per cent. The irrigation percentage was 3½.

	Maximum rates. Rs. As.		Rs. As.
Dry crop	... 1 12	to	0 14
Water-rate	... 4 0		...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
74,008	1,10,736	36,728	49

The average rates were—

	Rs.	As.	P.
Dry crops ...	... 0	8	0
Irrigated land ...	... 3	2	7

The local Government thought it was open to question whether the new rates were not too low. They were introduced in 1876-77.

V.—17 *villages of the Nasik, Dindori, Niphad, and Sinnar Taluqas.*

Survey addition to recorded cultivation, 60 per cent. Irrigation percentage, 6½.

This tract includes the town of Nasik and its neighbourhood, consequently the maximum rates were high.

	Maximum rates. Rs. As.		Rs. As.
Dry crop	... 2 8	to	1 6
Water-rate (average)	... ...		4 15 11

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
22,539	34,879	12,340	55

	Average rates. Rs.	As.	P.
Dry crop ...	... 0	12	11
Dam-land ...	... 6	14	9

The settlement runs from 1875-76.

VI.—68 *villages of Niphad and Sinnar Taluqas.*

Survey addition to recorded cultivation, 12 per cent. Irrigation percentage, 6.

These villages were all in the old Sinnar taluqa when settled in 1843-44 and 1844-45.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry crop ...	... 2 0	to 1 6
Water-rate ...	... 10 0	...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs	Rs.	Rs.	
92,892	1,28,882	35,990	39

Average rates were—

	Rs. As. P.
Dry crop ...	... 0 11 1
Channel lands ...	... 6 12 1

The settlement runs from 1875-76.

VII.—9 *villages in Chandur Taluqa.*

Survey addition to recorded cultivation, 6½ per cent. Irrigation percentage, 9.

These villages were got by exchange from Indore in 1865. They have been settled at the same rates as neighbouring villages of the taluqa.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
27,076	39,836	12,760	47

There is no rice cultivation. Average rates are—

	Rs. As. P.
Well lands ...	... 1 13 0
Channel do. ...	.. 4 10 7
Dry crops ..	... 0 14 10
General average	... 1 2 2

The settlement runs from 1876-77.

DANG TALUQAS.

VIII.—22 *villages of Dindori Taluqa.*

Survey addition to recorded cultivation, 4¾ per cent. Irrigation percentage, only 2½.

These were the first Dâng villages to come under revision of settlement.

This tract has not been opened up by high roads, and is at a distance from the railroad and from large markets. The revision of settlement made no change in existing maximum rates (Rs. 3 for rice, Rs. 1-2 for rabi, and 7 annas per acre

for kharif crops), but merely adjusted them to the re-measured area as follows:

Old assessment.	New assessment.	Difference.
Rs.	Rs.	Rs.
7,748	8,343	595

The average rabi rate was 10 annas 5 pie, and kharif rate 4 annas 8 pie per cultivated acre.

The settlement runs from 1875-76.

IX.—30 *villages of old Trimbak Petta.*

Survey addition to recorded cultivation, 5 per cent.

These villages are more favourably circumstanced as regards communications, and within easy access of the railway station of Deolali. Accordingly, the existing rates for mal lands only were retained, while for rice land and black soil they were raised respectively by one-sixth and one-fourth, finally standing as follows:—

		Rs.	As.		Rs.	As.
Kali ...	...	1	6	to	1	4
Mal ...	...	0	7	„	0	8
Rice ... New*	...	1	6	„	1	4
Rice ... Old	...	7	0	„	0	12

* *i. e.*, rice land made out of dry-crop land since last settlement.

The financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
9,019	10,992	1,973	21

The average rates were—

		Rs.	As.	P.
Rabi land ...	...	0	14	1
Kharif do. ...	...	0	4	5
Rice ... Old ...	...	2	11	9
Rice ... New ...	...	1	2	6

The general revenue incidence on cultivation was 7 annas 4 pie only, against 6 annas 7 pie before.

The settlement was introduced in 1877-78.

X.—11 *villages of Abhona Petta.*

The survey increased recorded cultivation by nearly 50 per cent.

Here the condition of the ryots is generally poor, and the villages are at a distance from the railway, and deficient in communications.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,538	2,524	986	60

Nearly all the cultivated area is dry crop land. The average dry-crop rat is nearly 6 annas per acre; the averag rate for rice being Rs. 1-12-7, and fc gardens Rs. 1-1-3.

These 11 villages were re-settled i 1875-76.

XI.—17 *villages of the Nasik and Sinna Taluqas.*

Survey addition to recorded cultivatio 3 per cent.

These, too, are Dâng villages, settled i 1845-47. The rates then fixed were no raised as in the 30 villages of Trimba petta above. The results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
10,709	12,424	1,715	17

This gave average rates as follow :

			Rs.	As.	P.
Rice land	...	...	2	9	5
Rabi do.	...	...	0	14	9
Kharif do.	...	...	0	5	0
Gardens	...	...	1	12	0*
General average	...	...	0	8	2

* Including well-lands.

The settlement runs from 1875-76.

XII.—12 *villages of Nasik Taluqa.*

These resemble in all respects the 3 Dâng villages of old Trimbak petta They were assessed at the same rate The condition of the people is poor, wate is scanty, and roads are bad.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
4,172	5,050	878	21

The survey added 12 per cent. to th recorded occupied area—a difference du not so much to surreptitious cultivatio as to imperfect survey of the mal land by native officials in 1860. Eighty-fiv per cent. of the present occupied are is mal, 10 per cent. black soil, and th rest rice land. Average rates are—

			Rs.	As.	P.
Rabi land (*kali*)	..	...	0	14	11
Kharif (*mal*)	...	...	0	4	1
Rice land { Old	...	...	2	6	5
Rice land { New	...	...	1	2	1
General average	...	...	0	7	3

The settlement runs from 1879-80.

TALUQAS TRANSFERRED FROM KHANDESH.

XIII.—Subah Division of Taluqa Baglan.

Irrigation percentage, 8.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry-crops ...	2 2 to	1 10
Dam lands ...	18 0 „	9 0

Where the supply of water was uncertain, the maximum rate was one of Rs. 7 only. Financial results are shewn for dry-crops only as follows :

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
66,209	66,813	604	0·9

giving an average rate of Rs. 0-10-1.

The settlement runs from 1868-69.

XIV.—Nizampur Petta (Baglan).—The soil of this petta is poor, and water is very scarce. Maximum dry-crop rates were assumed at Rs. 2 to Rs. 1-8, but the Commissioner recommended a reduction, and the financial results are not shewn. The revenue of the entire petta in 1866-67 was Rs. 37,226. The settlement appears to have been introduced in 1868-69.

XV.—Zaikhera and Abhona Pettas.

Irrigation percentage 4½.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry-crop ...	2 0 to	1 0
Dam lands ...	14 0	...

The survey added 45 per cent. to recorded cultivation.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
99,567	86,924	—12,643	12·7

This gives average rates—

	Zaikhera.	Abhona.
	Rs. As. P.	Rs. As. P.
Dry-crops ...	0 8 3	0 8 4
Dam-watered lands ...	10 5 11	5 7 0
Rice ...	1 9 11	1 11 9

The rice area is inconsiderable. Twenty-four jungle villages were assessed on the *outbundy* or plough-rate system, giving an average dry-crop incidence of 4⅔ annas per acre. The settlements were introduced in 1869-70.

DHARWAR.

Area	...	4,565 *sq. miles.*
Population	...	988,037.

Taluqa Settlement Reports.

Administration Reports.

DHARWAR is a great cotton-growing district. The central taluqas (Hubli, Naulgund, and Dambal) also grow wheat, but the rainfall is too heavy for this crop in the southern and western parts, where rice is a staple crop. Indian millet (jawâr) is the main food-grain all over the district. The irrigated area is considerable only in the rice-growing taluqas, where it varies from 9 to 23 per cent. Garden lands are especially valuable in the south of the district, resembling those of Canara, though they do not produce spices, but only cocoanuts and betel. Gardens are assessed at consolidated wet-rates, except lands watered from wells made during the currency of last settlement, which are assessed at the highest dry-crop rates.

The old regular survey and settlement was made in 1844-1849. Though the present Note is concerned with existing settlements only, the figures relating to the old survey and settlement may be quoted as an illustration of the change wrought in the Deccan by the regular settlements.

Revenue, 1842-43.	Revenue, 1852-53.	Revenue, 1862-63.	Revenue, 1873-74.
Rs.	Rs.	Rs.	Rs.
8,10,921	8,50,062	10,66,692	11,00,180.

Administration Report, 1874-75, page 48.

The cultivated area has risen from 609,786 acres to 1,295,199, the average prices of food-grains and of cotton have more than doubled, population has greatly increased, and there are now seven carts to every two in 1849, representing, in six taluqas, an addition of 17 lakhs to the income of the people, the profits of a cart and pair of bullocks being reckoned at Rs. 100 a year. Though the number of cattle has decreased in some taluqas, owing to the diminution of grazing area, the quality of the stock is said to have been greatly improved by stall-feeding. Cultivation now covers fifteen-sixteenths of the entire arable area. The period from 1862 to the close of the American war is described as one of "almost fabulous wealth," and

though prices have subsequently declined, the general history of the country since last settlement has been one of marked and steady material progress. The district contains no railroad, though the survey of one from Bellary has been prepared. Few districts, however, are better provided with good roads suitable for the local traffic, which passes, for the most part, westwards towards the coast. The road across the Ghauts to the port of Karwar is one of the most important.

All these circumstances pointed to a considerable enhancement of revenue in the present revised settlements, the first of which was introduced in 1874-75. So far as they have been reported, the results up to 1880-81 are as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs		Rs.
12,42,094	17,66,998	5,24,904	42·3	4,40,096

This gives an average rate of Rs. 1-1-6 per cultivated acre, against the former average of 12 annas. This large increase is entirely due to enhancement of the revenue rates, for the survey added only about 1¼ per cent. to the recorded area of cultivation. The maximum rates employed, and the resulting average rates, as far as ascertainable, were—

	Maximum rates.		Average rates.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Dry-crop	3 0	to 0 10½	1 4 3	to 0 14 4
Rice ...	9 0	„ 6 0	3 3 1	„ 2 10 2
Gardens...	15 0	„ 8 0	11 7 9	„ 4 6 4

The introduction of the new assessments was postponed in the taluqas which suffered from the famine of 1876-1878.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.*

I.—47 villages of old Hubli Taluqa and 81 villages of Naulgund Taluqa.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry-crop lands ...	... 3 0	to 1 4
Rice do. ...	... 8 0	...
Garden do. ...	... 8 0	...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,48,974	4,01,225	1,52,251	61

The average rate per cultivated acre was raised from Rs. 0-14-4 to Rs. 1-6-11. Nearly all the area of cultivation is under dry crops.

* NOTE.—The 'old assessments' and 'new assessments' shewn in these abstracts are the figures of the years of introduction of the revised assessments, and their total differs somewhat from the financial results for the whole district in 1879 and 1880, as set forth above.

Appendix G, H.

The former settlement was introduced in 1844-45. The cultivated Government area was then only 156,890 acres. In five years it rose to 233,034 acres. The settlement was introduced in 1874-75.

The cost of survey and settlement was estimated at Rs. 59,600.

II.—93 *villages of old Dambal Taluqa.*

Here too dry-crops are almost the only staple.

		Maximum rates.	
		Rs. As.	Rs. As.
Dry-crops	... ...	1 8 to	1 2
Rice	... ...	6 0	...
Gardens	... ...	8 0	...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,67,566	2,48,446	80,880	48·2

This raised the average rate from 9 annas 7 pie to 14 annas 3 pie per cultivated acre.

Appendix G, H.

The old settlement had been made in 1845. It was followed by an immediate increase of 14 per cent. in cultivation, and the extension of cultivation has been almost uninterrupted ever since. The settlement was introduced in 1875-76. The cost was Rs. 62,200.

III.—138 *villages of old Bankapur Taluqa.*

		Maximum rates.	
		Rs. As.	Rs. As.
Dry-crops	... ...	2 4 to	1 6
Rice	... ...	8 0	...
Gardens	... ...	12 0	...

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,17,728	1,77,591	59,863	49·5

The average rate was raised from 13 annas to Rs. 1-3-2. Dry-crop cultivation prevails.

The estimated cost was Rs. 38,000.

The former settlement was made in 1845-46, and the cultivated area had doubled itself by 1854-55. The present settlement runs from 1876-77 to the dates of expiry of settlement in the various taluqas among which these 138 villages have been distributed.

IV.—215 *villages of old Hangal Taluq and Taras Mahal.*

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crops	2	4	to	1	0
Rice	8	0	„	7	0
Gardens	15	0		...	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,27,704	1,86,505	58,801	46

	Average rates.					
	Old.			New.		
	Rs.	As.	P.	Rs.	As.	P.
Dry-crops	0	10	10	0	15	0
Rice	1	15	3	3	0	0
Gardens	11	13	10	11	7	9
All occupied lands ...	1	0	3	1	7	9

The estimated enhancement of assessments rose as high as 65·3 per cent. in the first class villages. Rice lands are 23 per cent. of the cultivated area.

The cost was Rs. 63,914.

The former settlement had been made in 1847-48, and the cultivated area had doubled itself by 1855-56. The present settlement runs from 1877-78.

V.—130 *villages of old Ranibennur Taluqa.*

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crops	2	0	to	1	6
Rice	8	0		...	
Gardens	12	0		...	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,15,035	1,61,177	46,142	40·1

	Average rates.					
	Old.			New.		
	Rs.	As.	P.	Rs.	As.	P.
Dry-crops	0	11	5	0	15	4
Rice	1	15	2	2	10	2
Gardens ...	6	7	2	4	15	6
All occupied lands ...	0	11	6	1	0	1

This taluqa is at a comparative disadvantage as regards soil and markets. The rice and garden areas are inconsiderable.

The estimated cost was Rs. 47,856.

The old settlement was made in 1847-48, and the cultivated area had doubled itself by 1852-53. The new settlement runs from 1878-79.

VI.—247 *villages of old Kod Taluqa.*

Here the area under rice at revision was 13½ per cent. of the total area of cultivation.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry-crops ...	... 2 0	to 1 2
Rice ...	... 8 0	„ 7 8
Gardens ...	... 15 0	...

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,51,033	2,09,864	58,831	39

	Average rates.					
	Old.			New.		
	Rs.	As.	P.	Rs.	As.	P.
Dry-crops ...	0	10	9	0	14	4
Rice	2	1	1	3	3	1
Gardens ...	6	7	4	6	14	0
All occupied lands ...	0	14	0	1	3	2

The old settlement was sanctioned in 1849, and by 1857-58 the cultivated area had increased threefold. The present settlement runs from 1879-80.

The estimated cost was Rs. 64,898.

VII.—134 *villages of old Dharwar Taluqa.*

Nine per cent. of the cultivated area at revision was rice land.

	Maximum rates.	
	Rs. As.	Rs. As.
Dry-crops ...	... 3 0	to 1 4
Rice ...	... 9 0	„ 7 8
Gardens ...	... 9 0	...

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,38,343	1,93,400	55,057	39·8

	Average rates.					
	Old.			New.		
Dry-crop lands ...	Not shown.					
	Rs.	As.	P.	Rs.	As.	P.
Rice lands	2	9	8	2	12	3
Channel gardens ...	3	14	4	4	6	4
All occupied lands ...	1	3	2	1	10	10

The old settlement was introduced in 1848-49, and in ten years the cultivated area increased 80 per cent. The new settlement runs from 1879-80.

The cost was Rs. 42,199.

VIII.—34 *villages of old Nargund Petta.*

The area is all dry-crop land. Maximum rates range from Rs. 1-10-0 to Rs. 1-4-0, and the financial results are—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
46,879	58,285	11,406	24·3	10,049

The average rate per cultivated acre is Rs. 1-4-3.

The settlement runs from 1880-81.

IX.—29 *villages of old Mulgund Taluqa.*

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crop ...	1	12	to 1	4
Rice lands ...	6	0	.....	

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
61,888	96,192	34,304	55·5	18,252

The average rate per cultivated acre is Rs. 1-3-9.

The settlement runs from 1880-81.

X.—106 *villages of old Misrikota Taluqa.*

Here the main staple is rice, assessed at a maximum rate of 6 rupees per acre; while for dry crops the rates range from Rs. 1-5-0 to 10½ annas. The average rate per cultivated acre is Rs. 2-12-3, and financial results are—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
68,216	91,667	23,451	34·4	32,532

The settlement runs from 1880-81.

KALADGI.

Area	...	5,696 *sq. miles.*
Population	...	816,037.

Taluqa Settlement Reports.
Administration Report, 1878-79.

THE Kaladgi district was formed in 1864 out of part of the old Sholapur and part of the old Belgaum Collectorates. The Sholapur portion was regularly surveyed and settled in 1843-45. The southern or Belgaum portion was not completely settled till 1862-63. The earliest settled tracts were in the unprosperous condition then common throughout the Deccan, but they have since shared in the general improvement. In the taluqas mentioned below, the cultivated area has doubled itself during the currency of the past settlement, so that now only 2½ per cent. of the arable area remains uncultivated; population has increased 54 per cent.; plough cattle 50 per cent., cows and milch buffaloes, with their young, 40 per cent.; and whereas there were only 140 carts in the 433 villages at the time of settlement, there were 1,590 carts at the time of the present revision. Moreover, the railway has opened up the country, though it does not pass through the district.

The greater part of the district is a bare undulating plain of red soil, with black soil in the low lands and river valleys, the latter especially being very fertile. The principal crop is Indian millet (jawâr), which occupied three-fifths of the cultivated area of 1878-79, while spiked millet (bajri) occupied 15 per cent., and wheat and cotton about 7 per cent. each. The rainfall is uncertain, and irrigation is scanty, covering less than one-half per cent. of the cultivated area. There is very little irrigation from dams; the general maximum rate on gardens thus watered is 5 rupees per acre. Well-lands have been assessed at the highest dry-crop rates.

In 1862-63, after completion of the first regular settlement, the revenue of the district stood at Rs. 7,95,290. By 1873-74, it had risen to Rs. 8,38,383. Next year, the earliest settlements began to come under revision. The sub-joined Notes relate to these revised settlements only. The re-settled taluqas comprise all the portion transferred from the old Sholapur district. The survey increased the recorded area of cultivation by 7½

per cent., and the results of the revision of settlement have been the following :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,45,749	6,86,271	1,40,522	25·7	2,72,351

this gives an average rate of 8 annas 4 pie per cultivated acre. This rate fairly represents the general incidence of the new assessments, as the cultivated area is practically all under dry crops. The average rate of the former settlement was 6 annas 11 pie. The revised settlements were introduced into these taluqas in 1874-1878.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.*

I.—102 villages in the Indi, Shindugi, and Bijapur taluqas.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crop lands ...	1	2 to	1	0
Rice do.	4	0	...	
Garden do.	5	0	...	
Lands under kachha wells ...	1	12	...	

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,09,698	1,53,933	44,235	40·3	61,544

Average rates :

	Rs.	As.	P.
Rice lands	1	14	11
Garden do.	3	4	0
All occupied do.	0	8	5
Old general average ...	0	6	0

The settlement runs for 30 years from 1874-75.

II.—182 villages in the Indi, Bijapur, Shindugi, and Bagewari taluqas.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry-crops ...	1	2 to	1	1
Rice lands ...	4	0	...	
Gardens ...	5	0	...	

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
2,36,925	2,95,390	58,465	24·6	1,19,465

Average rates :

	Rs.	As.	P.
Rice	0	15	2
Gardens	2	8	0
Total	0	7	9

The settlement runs for 30 years from 1875-76.

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* *Note.*—The 'old assessments' and 'new assessments' shewn in these abstracts relate to the years of revision, and their total differs somewhat from the financial results for the whole district in 1878-79, as set forth above.

III.—149 *villages of the Bagewari and Muddebihal taluqas.*

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crop lands ...	1	2	to	1	0
Rice do. ...	4	0		...	
Channel-watered gardens.	5	0		...	

Old assessment.	New assessment.	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,62,181	2,02,791	40,610	23·9	76,309

The average rate per cultivated acre rose from 7 annas 7 pie to 9 annas 5 pie. The rice and garden average rates were Rs. 1-6-7 and Rs. 3-2-11 respectively.

Apparently the settlement runs for 30 years from 1876-77.

IV.—39 *villages of the Muddebihal taluqa.*

The revised rates were introduced in 1878-79, with the following results:

Old assessment	New assessment	Difference.	Percentage.	Cost.
Rs.	Rs.	Rs.		Rs.
37,103	43,408	6,305	17	15,033

POONA.

Area ... ... 5,099 *sq. miles.*
Population ... 907,235.

PART of the Poona district—the taluqa of Indapur—was the first in the Presidency to come under the regular survey and settlement of 1838. Throughout the greater part of the district, that settlement has already expired, but there are portions yet where it has four or five years to run. At the time it was made, the condition of the country and people was one of the greatest wretchedness and desolation. Several causes—the ravages of Holkar's army in the beginning of the century—the famine which followed that campaign, and was repeated two or three times in the next twenty years—the epidemic of cholera about 1820—the fall of prices after the introduction of British rule, and the consequent oppressive weight of the old Mahratta assessments, as also the corrupt distribution of those assessments—were assigned by the settlement officers of that day as having contributed to bring about such a result. In many taluqas half the arable land was waste, and the people were so utterly pauperized that the realisations of revenue scarcely averaged half of the nominal assessments, and sometimes far less than that, as in the Bhimthadi taluqa in 1832-33 (a specially bad year) where, out of a nominal jama of Rs. 71,872, only Rs. 17,050 were realised, and Rs. 54,822 were remitted.

Administration Report, 1874-75, page 44.

Poona Selections, CLI., page 201.

The regular settlements of 1838-1854 were followed by extension of cultivation and increase of realisable revenue, until, in the last years of their currency, arable waste land and remissions had almost disappeared. In the Indapur taluqa, for instance, the arable waste at the expiry of settlement was less than 0·4 per cent. of the entire culturable area of the taluqa, and the average annual remissions of the last decade had been six rupees out of a revenue demand of Rs. 83,054. For all the five revised taluqas noted on below, the increase of cultivation during settlement has been 46 per cent., there is at present less than 4 per cent. of the arable area unoccupied, and the number of wells has increased from 4,721 to 7,655, representing an expenditure of more than

Ditto, page 82.

twelve lakhs of capital.* Prices of the principal food-grains, as also of cotton, have meanwhile doubled; the district has been opened up by 110 miles of railway, as well as by roads; wheeled vehicles, almost unknown in 1840, have become common; and the people have increased in numbers and in material prosperity.

The rainfall of the district varies according to the distance from the Ghauts. In the western taluqas it is heavy; it decreases eastwards, and in some parts (as the Bhimthadi and Indapur taluqas) it is notoriously scanty and uncertain. Spiked millet (bajri) and Indian millet (jawár) are the two main crops; wheat and rice occupy a comparatively small area. About 2¼ per cent. of the cultivated area is irrigated, almost entirely from wells. Dam lands pay a water-rate, but some lands of this description have been assessed at consolidated rates in the later-settled taluqas.

The first taluqa to come under revision of settlement was Indapur, where the new rates were introduced in 1867-68. The general results of the revision of settlement, as shewn in the taluqas noted on below, appear as follows:—

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
4,77,373	6,43,021	1,65,648	34·7	3,82,477

This gives an average rate of nine annas per cultivated acre. A portion of this large increase is due to the assessment of unrecorded cultivation. The survey increased the recorded cultivated area by 12 per cent.

Maximum and average rates in the revised settlements vary as follows:

	Maximum rates.				Average rates.					
	Rs.	As.		Rs.	As.	Rs.	As.	P.	Rs.	As. P.
Dry crops ...	3	4	to	0	14	0	11	10	to 0	6 8
Rice ...	6	0	„	5	0	3	1	7	„ 2	1 2
Gardens (water-rate) ...	6	0	„	1	0	4	2	4	„ 2	5 2
Well lands ...	.....					1	9	11	„ 0	10 2

Exception has been taken to some of the recent enhancements, especially in the Bhimthadi taluqa.

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* *Note.*—The *original* survey and settlement of these taluqas cost Rs. 2,54,730. The collections then were Rs. 3,43,254. By the time the settlement expired, the annual collections had risen to Rs. 4,61,476 (last year of old settlement).

ABSTRACT OF TALUQA SETTLEMENT REPORTS.*

I.—Indapur Taluqa.

This is a poor taluqa. The new assessments were based on the general principle that an increase of 50 to 60 per cent. was warranted by the rise in the price of grain since 1856—the assumed date of the beginning of prosperity. An all-round maximum rate of one rupee per acre gave the required enhancement. For certain alluvial lands it was raised to Rs. 1-8, for Indapur itself to Rs. 1-2, and for some villages, with less rainfall than the rest, it was lowered to 14 annas. The result was an increase of 53 per cent., reduced in 1875 to the following:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
81,184	1,11,866	30,682	37·8

giving an average dry-crop rate of Rs. 0-6-8 per acre.

The settlement was introduced in 1867-68.

II.—54 villages of Bhimthadi.

Maximum dry-crop rates, Rs. 1-12 to Rs. 1-2. The maximum water-rate on tank lands ranged from one to six rupees.

The railway traverses the whole length of the taluqa, and has three stations within its borders, and two just outside. The high road from Poona to Sholapur runs parallel to the railway. But the taluqa is an exceptionally poor one. The first result of the settlement was a revenue enhancement of 63 per cent. On lowering the rates in 1875, the final results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
82,119	1,12,221	30,102	37

giving average rates as below:

	Rs.	As.	P.
Dry crops	0	8	9
Well lands	0	14	1
Tank do.	2	6	5

The settlement runs for 30 years from 1871-72.

III.—Supa Petta of Bhimthadi.

Maximum dry-crop rates were Rs. 1-6 to Rs. 1. They were not lowered in 1875,

* *Note.*—Only the revised taluqas have been taken into account. The statistics for the taluqas still under the original settlement are imperfect. For the revised taluqas, the figures differ somewhat from those on which the total financial results, as shewn above, are based: the reasons have been explained in the notes on preceding districts.

the classification merely being altered. The original proposals for re-settlement involved a revenue enhancement of 42 per cent., but they were modified as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
57,463	72,303	14,840	29

giving average rates as below:

	Rs.	As.	P.
Dry crops	0	7	8
Well lands	0	13	8

The settlement was introduced in 1874-75.

IV.—10 *villages of Bhimthadi.*

Maximum dry-crop rates, Rs. 1-10 to Rs. 1-2. Nearly all the garden land is under wells, and the small area watered from tanks was assessed at a consolidated maximum rate of Rs. 7½ per acre.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
13,777	17,827	4,050	29·9

This gives an average rate of 8 annas 4 pie per acre on dry crops, and Re. 1-0-5 per acre on well lands.

The settlement was introduced in 1878-79.

V.—16 *villages of Bhimthadi.*

Maximum dry-crop rates, Rs. 1-4 to Rs. 1-2. Almost all the garden area is under wells.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
28,406	35,880	7,474	26·3

This gives an average rate of Rs. 0-9-0 per acre of dry crops, and Rs. 1-0-8 per acre on well lands.

The settlement was introduced in 1879-80.

VI.—Pabul Taluqa.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crops (original) ...	3	0	to 1	12
Do. (revised) ...	2	6	„ 1	6
Rice	5	0	.....	
Water-rate on tank lands	6	0	to 1	0

The north-western portion of this taluqa enjoys a much more plentiful rainfall than Indapur, and is better cultivated. The railway passes not far from

the borders of the taluqa. The first result of the new settlement was an enhancement of 51 per cent. As modified in 1875, the results were—

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,02,584	1,39,479	36,895	36

Average rates were—

	Rs.	As.	P.
Dry crops	0	11	2
Well lands	1	5	0
Rice	3	1	7
Tank lands	3	11	6

The settlement was introduced in 1874-75.

VII.—Haveli Taluqa.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crop (original) ...	4	0 to	2	8
Do. (revised) ...	3	4 „	1	6
Rice	6	0	.....	
Water-rate on tank lands	8	0 to	1	0

The rainfall in this taluqa varies from 47 inches in the west to 15 inches in the east. The taluqa includes the city of Poona. Financial results were at first an enhancement of 65 per cent., but after revision in 1875, they stood as follows :

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
83,469	1,16,559	33,090	40

Average rates were—

	Rs.	As.	P.
Dry crop	0	11	10
Well lands	1	9	11
Rice	2	14	8
Tank lands	4	2	1

The settlement was introduced in 1873-74 and (for four villages) 1875-76.

VIII.—18 villages of Purandhar.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Dry crop ...	2	0 to	1	6
Rice ... } 8 0 { This includes soil assessment and water-rate.				
Gardens ... }				

This taluqa enjoys a fairly good and certain rainfall. It is an elevated plateau, sloping eastwards, and separated from Poona by a range of hills more than 1,000 feet high. Another range, running east and west, divides it into two parts. The

improvement of communications in this taluqa has been especially conspicuous.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
18,733	28,617	9,884	52·8

Average rates:

		Rs.	As.	P.
Dry crop	... ...	0	8	6
Rice	... ...	2	1	2
Gardens	... ...	3	7	9
Total	... ...	0	12	7

The settlement was introduced in 1879-80.

IX.—18 *villages of Purandhar.*

		Maximum rates.			
		Rs.	As.	Rs.	As.
Dry crop	...	2	2	to 1	6
Rice	... }	8	0	Including	
Garden	... }			water-rate	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
18,486	25,631	7,145	39

Average rates:

		Rs.	As.	P.
Dry crop	... ...	0	9	11
Rice	... ...	2	3	7
Gardens	... ...	2	5	2
Total	.. ...	0	11	2

The settlement was introduced in 1879-80.

A considerable portion of the increase in the Purandhar taluqa was due to the extension of irrigation and the bringing of land under payment of water-rates.

SHOLAPUR.

Area ... ... 4,499 *sq. miles.*
Population ... 718,034.

THE present Sholapur Collectorate is made up of parts of old Sholapur and parts of old Ahmadnagar. It consists for the most part of a bare undulating plain, producing kharif crops. The original Sholapur Collectorate was the second district to come under the survey of 1839, and it was one of those in which the impoverishment of the cultivators was at that time most marked, and where the collection of the revenue was characterised by the greatest abuses. At the same time prices were extremely low, and there were hardly any facilities of communication in the shape of wheeled carriage. At present the railway runs through the district for 110 miles, roads have been made, and the price of the staple food-crop (jawár) has increased by 50 to 100 per cent. The cultivated area has increased 50 per cent., till only one-sixtieth of the arable area is now unoccupied; plough cattle have increased 20 per cent., and there are now three times as many carts in the district as there were thirty years ago.* From 7 to 12 per cent. of unrecorded cultivation has been added by the new survey.

Selections, No. C. L., 1877, pages 5, 7, 161, 305, 425.
Administration Report, 1878-79.
Page 134.
Pages 126, 235.
Pages 235, 388.

From all these causes it resulted that the new survey and settlement enhanced the revenue demand in the various taluqas by 38 to 77 per cent. Revision and reduction in 1875 lowered the general enhancement to 40 per cent.

Administration Report, 1873-74, page 110.

Irrigation in Sholapur is almost entirely from wells. The small area irrigated from dams pays a water-cess in addition to its assessment at dry-crop rates. In 1878-79 the proportion of the cultivated area irrigated was 3 per cent. The district is essentially a dry-crop one, jawar being the great staple, and, after that, bajri and linseed.

The aggregate results of the new settlements are shewn as follows :

Old. assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,56,107	7,82,615	2,26,508	40·7	4,35,332

* *Note.*—The *original* survey and settlement in the taluqas which have lately come under revision cost Rs. 2,14,472. The revenue then was Rs. 2,98,169. Before revision it had risen to Rs. 4,05,656.

This gives an average rate of 8 annas 8 pie per cultivated acre. As originally made, the settlements imposed a revenue demand of no less than Rs. 9,05,723.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Madha Taluqa.

Page 150.
Page 16.

Maximum dry-crop rates were Rs. 1-2 generally, and Rs. 1-4 for certain villages near the railway. The irrigation percentage was 3·6.

Page 126.

There are three railway stations in this taluqa, and markets, though small, are frequent. The assessments, as originally proposed, gave a revenue increase of 77 per cent., and an average rate of 9 annas 4 pie. They were reduced to the following results :

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,08,469	1,46,443	37,974	36

The average dry-crop rate thus became 7¼ annas, and for well lands 12½ annas. It was estimated that the revised assessments were equivalent to one-sixth or one-seventh of the gross produce.

Page 266.

The settlement was introduced in 1872-73.

II.—Sholapur Taluqa.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry crop	1	8	to	1	2
Rice lands	3	0		...	
Water-rate on dam lands	6	0		...	

Page 173.

This taluqa also is traversed by the railway. The irrigation percentage is 2½ only. The enhancement first proposed was one of 77 per cent., of which ten per cent. was due to assessment of encroachments; the maximum dry-crop rate being Rs. 1-8. The revised proposals were—

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,74,915	2,51,126	76,211	44

giving average rates as below :

	Rs.	As.	P.
Dry crops	0	9	2
Rice	1	6	4
Well lands	0	14	3
Dam do.	3	2	10

The settlement was introduced in 1872-73.

III.—33 villages of Pandharpur Taluqa. Page 298.

Here the irrigation percentage is 2·2. The gain in recorded cultivation by the survey was about 7 per cent. The maximum rate first adopted was Rs. 1-2, as in Mâdha. It gave an enhancement of 74 per cent. The revised results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
36,062	52,636	16,574	46

giving an average dry-crop rate of 9¼ annas, against 6⅓ annas of the old assessments, and 11¼ annas of the first revision in 1872.

The settlement expires in 1888.

IV.—Barsi Taluqa. Page 398.

The gain in recorded cultivation by the survey was about 12 per cent. This is the best part of the Sholapur district, with a good rainfall and none of the poorest soils, and with 5½ per cent. of the cultivated area under irrigation. Barsi town is 22 miles from the railway, and has a metalled road to the station. Maximum dry-crop rates, as originally adopted, ranged from Rs. 1-8 to Rs. 1-4, giving a revenue increase of 62 per cent., and an average dry-crop rate of 11⅓ annas. The revision in 1875 gave results as follows :

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,24,667	1,77,135	52,477	42·1

with an average dry-crop rate of 10 annas and 2 pie.

The settlement was introduced in 1873-74.

V.—Karmala Taluqa. Page 512.

The railway runs through the whole length of this taluqa. Maximum dry-crop rates were originally fixed at Rs. 1-6 to Rs. 1, giving a revenue enhancement of 38 per cent., with an average dry-crop rate of 8 annas. The 1875 revision gave results as follows :

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,06,897	1,44,713	37,816	35
Add two new villages ...	2,848		
	1,47,561		

the average dry-crop rate was 7 annas and 8 pie, and 12¼ annas on well lands.

The settlement runs for 30 years from 1874-75.

THE CONCAN.

GENERAL REMARKS.

THE three Concan districts of Thana, Kolaba, and Ratnagiri possess certain revenue characteristics peculiar to themselves. Their old revenue system was one of cash payments annually re-adjusted with reference to the market price of grain in January and February. The revenue demand in grain was a fixed number of maunds of rice per bigha, according to the class of land, and the cash demand was calculated from this by application of the commutation rate determined on for the year. A portion of the grain assessment might be converted into cash at fixed rates. The system was immensely laborious, involving the annual re-calculation of the entire revenue of the district. In Thana, and part of Colaba, it was replaced by a settlement for 20 years at fixed average rates in 1834-38.

Cultivation in the Concan is of four kinds,—rice, rabi, garden, and 'warkas.' Rice is the staple crop, the rainfall being too heavy for good dry crops. The maximum rates for rice-lands are high, rising to Rs. 10 per acre, with an additional two annas in the rupee for lands capable of producing a rabi crop after the rice. Salt-water rice-lands, along the coast and the edges of the creeks, are assessed at lower rates. Rabi cultivation is of very limited extent; it consists chiefly of gram and other pulses. Gardens have been assessed at maximum rates rising in some places to 15 rupees per acre. The principal garden products are mangoes, cocoanuts, betel, and spices. Warkas is a term applied to large tracts of land, chiefly hill lands covered with grass or jungle, assessed at a few annas per acre. Such lands are an invariable accompaniment of rice cultivation throughout the Concan; they afford a supply of brushwood for 'râb' or wood-ash dressing for the rice fields, a portion also is cultivated with inferior kharif crops (as ragi, kodra, savi, &c.,) and a portion produces grass for sale or pasturage. Near Bombay, grass-lands are exceptionally valuable, and have been assessed at maximum rates ranging as high as three rupees per acre; elsewhere the maximum market rate is

usually four annas, except in places where black soil is found, and where the maximum rate rises to ten annas per acre.

Khoti tenures prevail in the Concan. In Thana and Kolaba the khots are leaseholders of villages, who obtained their leases in the early days of British rule. The khots resemble the zemindars of coparcenary villages in Upper India, but their rights over their tenants are limited by a number of customary privileges enjoyed by the latter. As regards the khots of Ratnagiri, recent legislation has placed their relations with their tenants on a definite footing; the new law can be extended to Colaba also. The highest class of holders of land in khoti villages, called Dharakaris, are independent of the khots, pay only the revenue assessment on their fields, and are thus practically in the position of Government ryots.

In the first instance, at the time of the survey, the rice and garden lands only were measured in detail, the warkas or hill lands being measured in blocks without any definition of internal holdings, the assessment being realizable in proportionate shares. In consequence of the small value of this land, this was supposed to meet all requirements at the time the survey of the Concan was first organized in 1852. But as time passed, and land of all kinds acquired a value, this arrangement was found to be very inconvenient, and a definition of the separate holdings in warkas lands was urgently called for, and is now in process of execution in all taluqas of Ratnagiri already settled, and is to be carried out in the survey and settlement of the remaining taluqas. When the survey has been finished in Ratnagiri, this separation and definition of warkas holdings will require to be made in Thana and Colaba also.

THANA.

Area	...	4,052 *sq. miles.*
Population	...	847,424

UNDER the revenue system in force in the Thana district at the time of cession, the yearly demand varied with the commutation price adopted for rice. In 1834-38, the district was settled at fixed acreage rates for 20 years. That settlement was made at a reduction, in view of the declining state of cultivation; it worked well, and the district improved under it. The present revision of settlement was made between 1855 and 1865, but a few taluqas were not resettled till 1870. More than three-fifths of the cultivated area of 1878-79 was under rice. In the taluqa first assessed (Nasrapur), rice and warkas lands were in the first instance linked together, and assessed at a consolidated rate, every rice field carrying with it a certain allotment of warkas. This arrangement proving inconvenient was changed in 1877, and the assessment fixed on the rice alone was fairly apportioned on the rice and warkas respectively; in the rest of the district they have been from the first kept separate, and can be taken up or relinquished independently of each other.

The Great Indian Peninsula Railway traverses part of the district, and another portion has been opened up by the line to Poona, while the Bombay and Baroda line runs along the coast for a distance of 100 miles. There are two trunk roads from Bombay to the chief passes in the Ghauts, and recently some smaller passes have been opened for traffic with the Poona and Ahmadnagar districts. Only some parts of the north and east of the district are now in want of communications. These are the Mahim, Omergaum and Dhanu taluqas.

The results of the settlement of the Thana district have been as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
	(1878-79.)			
Rs.	Rs.	Rs.		Rs.
10,16,672	12,85,592	2,68,920	26	8,72,736

This large increase of revenue is chiefly due to extension of cultivation. In the first years of the revised assessments, the increase was only 9½ per cent.*

The maximum rates, and the average rates resulting from their application, varied in the different taluqas as shown below:

	Maximum rates.		Average rates.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Rice lands ...	6 0 to	2 0	5 8 0 to	1 12 11
Rabi ...	3 0 „	1 4	1 13 11 „	0 14 2
Gardens ...	6 0 „	2 8	5 0 10 „	3 1 8
Warkas ...	0 10 „	0 2	0 3 6 „	0 1 11

The settlement of the district expires in 1884-85.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Nasrapur Taluqa.—Re-settlement was made in 1855-57. Rice lands (comprising almost all the cultivated area) were assessed at maximum rates of Rs. 5 to Rs. 3, and dry-crop lands at maximum rates of Rs. 1-8 and Rs. 1-4. The rates for rice lands include an addition on account of culturable waste (*warkas*), varying from two to eight annas according to the capabilities of the land. The general result was a small decrease in the revenue demand.

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,20,053	1,13,221	—6,832	5·6

As above stated, the portion of the assessment due on the warkas land was separated from that of the rice land in 1877. For one of the two divisions of the taluqa, the average rate on rice lands (exclusive of the warkas addition) was estimated at Rs. 3-8-8.

II.—Panwell Taluqa.

	Maximum rates.	
	Rs. As.	Rs. As.
Sweet-water rice lands ...	6 0 to	4 0
Salt „ ...	4 8 „	4 0
Rabi ...	1 12 „	1 8
Gardens ...	2 8	
Warkas ...	0 4 to	0 3

* The financial results shewn in the taluqa settlement reports, added together, give the following figures:

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
10,31,950	11,28,475	96,525	9½

The slight difference in 'the old assessment' figures is probably due to some different method of calculation.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,10,789	1,08,664	—2,125	2

Rabi and garden lands occupy 6·6 per cent. of the cultivated area.

The settlement runs from 1857-58.

III.—Callian and Tulloja Taluqas—

Rabi and garden lands occupied 4·1 per cent. of the cultivated area; they were assessed at the usual maximum rates of Rs. 1-8 and Rs. 3 per acre. For rice lands the maximum rates varied from Rs. 6 to Rs. 4-8, with a separate rate of Rs. 4 for the salt-water rice lands on the Tulloja Taluqa. Certain rice lands yielding a second crop were assessed at Rs. 2 or Rs. 1-8 extra according as they were watered from tanks or wells. The maximum rate on warkas was four annas per acre.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,60,036	1,83,138	23,102	14·3

The increase was mainly in Tulloja, where the rates fixed in 1837-38 were inadequate as compared with those of the adjacent taluqas.

Average rates were—

	Rs.	As.	P.
Rice	3	8	0
Rabi	1	4	11
Gardens	3	1	8
Warkas	0	3	6

The settlement runs from 1859-60.

IV.—Salsette Taluqa.—The rates here were high on account of the proximity of Bombay, viz.—

Maximum rates.

	Rs.	As.		Rs.	As.
Dry-crop land ...	3	0	to	1	8
Rice land (sweet) ...	8	0	„	6	0
Do. (salt) ...	6	0	„	4	8
Mango gardens ...	10	0		...	
Cocoanut do. ...	15	0	„	10	0
Vegetable do. ...	4	0		...	
Warkas	3	0	„	1	0

Double-crop rice lands also paid an additional rate of four annas in the rupee. The warkas lands are valuable as yielding grass, which commands a high price in Bombay.

The result was estimated to be a revenue increase of 25 to 30 per cent.

The settlement runs from 1861.

V.—Bhewndy Taluqa.—The rabi area is stated to be inconsiderable. The maximum rates were—

	Rs.	As.		Rs.	As.
Dry-crop land	... 1	8		...	
Rice lands (sweet)	... 6	0	to	3	0
Do. (salt)	... 4	8	„	4	0
Vegetable gardens	... 3	0		...	
Warkas	... 0	4	„	0	3

Rice lands bearing a second crop of vegetables paid an additional rate of four annas in the rupee.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,17,714	1,27,320	9,606	8·2

An informal revision of settlement had been made in 1840-41, since when the price of rice had risen 50 per cent. The present settlement runs from 1861.

VI.—Bassein Taluqa.—The peculiarity of this taluqa is its large area of garden land, consisting of a strip of alluvial soil along the coast, three miles in breadth, with sweet water close to the surface. There is very little rabi cultivation. Maximum rates on rice lands and on warkas were the same as for Bhewndy, and for gardens Rs. 8 to Rs. 6.

Old assessment.	New assessment.	Difference.	Per centage.
Rs.	Rs.	Rs.	
1,06,440	1,18,647	12,207	11½

The former settlement had been made in 1836-37.

The settlement runs from 1861-62.

VII.—Kolwan Taluqa—

	Acres.
Government arable area—	
Rice land	32,493
Rabi do.	800
Warkas	1,85,500
Dullee	6,190
Total ...	2,24,483

Great part of this tract is hill and jungle. The cultivated area is almost all rice land, assessed at maximum rates of Rs. 5 to Rs. 2. Warkas pays from one to four annas per acre, and dry-crop cultivation Rs. 1-8 as a maximum rate. In certain villages rice land and warkas were assessed together, in others the entire warkas area of the village was made into a single 'number,' and assessed at a lump sum, apportioned among the ryots by a rate per plough. In these villages (called

khassbandi and *nâgarbandi* respectively) the settlement was sanctioned for ten years only, but has since been continued, pending inquiry into its operation (1878-79).

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
70,962	94,939	23,977	33

This gave the following average rates :

	Rs.	As.	P.	
Rice	2	5	8	
Rabi	1	13	11	(*sic*)
Warkas	0	2	1	

The settlement runs from 1864-65.

VIII.—Moorbar Taluqa.—This taluqa, at the time of settlement, was less favourably circumstanced as regards facilities of transport than any other part of the district.

Cultivation is all confined to rice land. The maximum rates adopted in the present settlement were Rs. 4-8 to Rs. 2 per acre for rice land, and three annas for warkas, rising to four annas in a few cases. There were a few acres of rabi crops, assessed at the usual maximum rate of Rs. 1-8. Garden cultivation was entirely unknown.

Old assessment.	New assessment.	Difference.	Per centage.
Rs.	Rs.	Rs.	
1,34,359	1,29,180	—5,179	3½

But this was equivalent to an increase of 14 per cent. on the average collections of ten years past.

The settlement runs from 1860-61.

IX.—Mahim Taluqa—

Government arable land (rice, rabi, and gardens) ...	33,135
Warkas	33,469

This taluqa is swampy near the coast, hilly and jungly inland, and unhealthy everywhere. At the time of settlement, it was destitute of made-roads, but the Bombay and Baroda Railway now traverses its entire length. Dry-crop cultivation is practically *nil*, but there are some gardens resembling those of Bassein, and paying maximum rates of Rs. 5 and Rs. 6. Rice lands were assessed at maximum rates of Rs. 5-8 to Rs. 2-8, and Rs. 4 for salt-water lands. Warkas pays two to three annas per acre.

Old assessment.	New assessment.	Difference.	Per centage.
Rs.	Rs.	Rs.	
91,886	99,007	7,221	8

Average rates came out as follows :

			Rs.	As.	P.
Arable land	...	...	3	1	3
Warkas	...	...	0	2	3

The former settlement was made in 1837. The settlement runs from 1863-64.

X.—Omergaum Petta.—This tract lies to the north of Mahim, and resembles it in unhealthiness, scantiness of population, and absence of roads at the time of settlement. It is likewise traversed by the railway from south to north. Rice lands engross almost all the cultivated area, and were assessed at maximum rates of Rs. 6 to Rs. 2. The warkas is black soil, producing castor oil plants, and was assessed up to ten annas per acre. Gardens paid maximum rates of Rs. 3 to 6; and the small area of rabi cultivation was assessed at the usual maximum rate of Rs. 1-8.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
53,090	66,655	13,565	26

The settlement runs from 1864-65.

XI.—Oorun Taluqa.—Here the *average* rates for sweet and salt rice lands, respectively, were Rs. 5-8 and Rs. 3 per acre, while grass lands, in view of the high price of grass, were assessed as high as a maximum of Rs. 2 an acre. The settlement appears to have come into force in 1867, but the question of the taxation of palms (date, toddy and cocoanut) was still pending in 1868. The rate proposed was eight annas a tree on toddy palms, and four annas on others. On rice and warkas lands the new assessments were as follows :

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
21,044	28,115	7,071	33·3

XII.—Dhanu Taluqa.—The rabi and garden area is inconsiderable. The maximum rates for rice lands varied from Rs. 6 to Rs. 2, for gardens the rate was Rs. 6 per acre, and for waste four annas to two annas. The tract generally resembles the Omergaum Petta, and, like it, is traversed by the railway.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
45,577	59,589	14,012	30·75

Average rates were—

		Rs.	As.	P.
Rice	... ...	1	12	11
Rabi	... ...	0	14	2
Gardens	... ...	5	0	10
Warkas	... ...	0	1	11

In part of the taluqa the settlement came into effect in 1867-68, in the rest in 1868-69.

COLABA.

Area	...	1,482 *sq. miles.*
Population	...	350,405.

COLABA was a sub-division of the Thana district till 1869-70. It resembles that district in its agricultural and revenue conditions. The greater part of it became British territory on the lapse of the Colaba State in 1841. Other portions were settled with the rest of the Thana district in 1834-37, and the assessments were revised and enhanced in 1843-44. In the taluqas of the old Colaba State, the revenue system of the Concan lasted till the regular settlement; elsewhere it was superseded by fixed acreage rates at the settlement of 1834-37. But in one tract (the Nizampur Petta) the native settlement of 1784-85 remained unrevised till 1860.

There are no railways in the district, and trade is carried on almost entirely at the ports on the coast or estuaries, roads being few. Seven-fifteenths of the cultivated area of 1878-79 was under rice; the rest was occupied chiefly by coarse kharif grains (ragi, kodra, &c.)

The present revision of settlement began in 1854, and was finished by 1867, but one taluqa was not assessed till 1873-74. The results are stated to be as follows:*

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
6,52,254	7,18,835	66,581	10·2	3,25,848

Maximum rates for the district, and average rates in four taluqas, are as follows:

	Maximum rates.				Average rates.					
	Rs.	A.		Rs.	A.	Rs.	A.	P.		Rs.	A.	P.
Rice ...	10	0	to	3	0	5	4	5	to	3	1	5
Rabi ...	2	0	„	1	0	1	2	7	„	0	12	6
Gardens	12	0	„	3	0	5	13	8	„	2	0	0
Warkas	0	4	„	0	1½	0	2	10	„	0	0	11

* These figures represent the actual assessments of 1878-79, as compared with the *average* collections under the old system. The taluqa abstracts shew the 'new assessments' as less than the 'old assessments'; the latter amounting to Rs. 7,63,070, the former to Rs. 6,93,516 only. But the loss is merely apparent; in the last year of the old system, the high commutation rates raised the 'old assessments' considerably over the average; and extended cultivation has subsequently increased the 'new assessments' as shewn in the text.

The high rates on cultivation and the low rates on warkas contrast with the settlement averages of Thana.

The district will come under revision of settlement in 1886-87.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Rewadanda Taluqa.

Here the maximum rates on sweet-water rice lands were Rs. 7 and Rs. 6 per acre, and on salt-water rice lands Rs. 5 and Rs. 4-8. Dry crops were assessed at a maximum rate of Rs. 1-8. Gardens were assessed at Rs. 12 and Rs. 10, with regard to soil, irrigation, and number of trees per acre. Warkas paid from four annas to one and-a-half anna per acre. Rice lands producing a second crop paid an additional rate of two annas on the rupee, so that the maximum assessment was Rs. 7-14 per acre.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
92,112	96,270	—4,158	4·5

This, however, includes the excise tax on toddy trees in certain gardens. The new assessment on cultivation was Rs. 77,174. Average rates were—

	Rs.	As.	P.
Rice land	4	14	4
Rabi	1	1	11
Garden	5	13	8
Warkas	0	2	10

The settlement was introduced in 1857-58.

II.—67 villages of the Undahri Taluqa.

The maximum rate on rice lands here varied from Rs. 7-8 (or Rs. 8-7 including the second crop rate) to Rs. 5 per acre. Garden lands paid a maximum rate of Rs. 10, and dry-crop lands one of Rs. 1-8. The warkas rate was 4 annas per acre.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
66,441	64,206	—2,235	3·3

This, however, was an increase of nearly 20 per cent. over the average collections of ten years past.

Average rates were—

	Rs.	As.	P.
Rice	5	4	5
Rabi	1	2	7
Gardens	3	14	8
Warkas	0	2	0

The settlement was introduced in 1858-59.

III.—Sanksee Taluqa.

Rabi and garden lands were assessed at maximum rates of Rs. 1-8 and Rs. 3 respectively. For sweet-water rice lands the maximum rates ranged from Rs. 7 to Rs. 4, and for salt-water rice lands from Rs. 4-8 to Rs. 4. Warkas was assessed at three and four annas as full rates.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,35,954	1,32,450	—3,504	2·4

The new assessments were about 9 per cent. in excess of the average collections of the past ten years.

Average rates—

	Rs.	As.	P.
Rice	3	13	2
Rabi	0	12	6
Gardens	2	0	0
Warkas	0	0	11

The settlement was introduced in 1858-59.

IV.—Nizampur Petta.

The rabi area is said to be inconsiderable. Both the rice and the dry-crop lands of this tract are described as inferior, and there was also, at the time of settlement, a great want of roads and markets. The maximum rates adopted were—

	Rs.	As.		Rs.	As.
Dry-crop lands ...	1	0		...	
Rice lands	6	0	to	3	0
Warkas	0	4		...	

Certain specially fertile warkas was assessed up to six annas the acre.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
47,783	40,690	—7,093	15

The new assessments were equal to the average collections of 10 years past. The settlement was introduced in 1861-62.

IV.—Raigud Taluqa.

	Maximum rates.				
	Rs.	As.		Rs.	As.
Dry-crop lands	2	0	to	1	0
Rice lands	10	0	„	3	0
Cocoanut gardens	10	0		...	
Vegetable do.	6	0		...	
Warkas	0	5	to	0	3

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
2,01,129	1,67,607	—33,522	16½

This represents the actual result of the new settlement in its first year. The average collections of ten years past were only Rs. 1,78,571.

The settlement was introduced in 1865-66.

VI.—Rajpuri Taluqa.

The rabi area is inconsiderable.

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Rice land ...	7	0	to	4	0	
Rabi do. ...	1	0		.....		
Warkas ...	0	4		.....		

The rates on rice lands were subject to an addition of 2 annas in the rupee for lands capable of yielding a double crop.

This taluqa lies to the east of the Nizampur Petta, and is a hilly tract, with well-watered rice land in the valleys. It is well situated as regards markets. Financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,92,001	1,53,875	—38,126	20

The settlement was introduced in 1865-66.

VII.—Kharapat lands of Alibagh Taluqa.—Cultivated area, 12,130 acres.

Maximum rates, Rs. 5 to Rs. 4. This is a strip of land along the sea-shore, south of Bombay harbour. It produces rice only. Financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
27,650	38,418	10,768	39

The average rate per acre was raised from Rs. 2-4-5 to Rs. 3-1-5.

The former settlement was made in 1852.

The present settlement runs from 1873-74 to 1886-87.

RATNAGIRI.

Area	...	3789 *sq. miles.*
Population	...	1,019,136.

THE Ratnagiri district is a mountainous tract of the Concan. The valleys are comparatively open in the neighbourhood of the Ghauts, but the centre of the district is a congeries of rugged jungly hills, and its eastern portion consists of rocky plateaus intersected by deep ravines. Nearly all the fertile land of the district is to be found along the banks of the rivers or salt-water creeks in the neighbourhood of the sea. The soil of the rest of the country is very poor, consisting of stiff ferruginous clay, often mixed with gravel.

Captain Wingate's Report of 30th January 1851, paras. 7—12.

The Ratnagiri survey was sanctioned in 1852, but the first taluqa settled was not brought under the new assessments till 1865-66, and there are still some portions of the district awaiting survey and settlement. Operations have been delayed by the difficult nature of the country, and still more by the peculiar complexity of the Khoti tenures. The relations between the Khots and their tenants, after many years of discussion, have only now been placed on a satisfactory footing by legislation. The taluqas noted on below have been settled between 1866 and 1873. By far the greater part of the cultivated area is warkas; the rabi and garden area is exceedingly small, while the area under rice sometimes falls as low as 10 per cent. of the whole area of cultivation.

The taluqas first settled were found to be over-assessed, and considerable reductions had to be made in the rates for rice lands. The people were very poorly off when settlement began.

Captain Wingate's para. 64.

The financial results of the Ratnagiri settlements are shewn as follows:*

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,83,037	5,97,063	14,026	2·4	12,51,213

* These figures embrace the entire settlement, so far as it has gone, including some tracts not noted in the taluqa abstracts.

Maximum rates, and the average rates resulting from their application in some taluqas, varied as shown below:

	Maximum rates.		Average rates.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Rice	... 9 0	2 8	3 14 4	2 15 10
Rabi	... 2 0	1 8	1 2 4	...
Gardens	... 15 0	6 0	7 12 0	3 8 6
Warkas	... 0 6	0 4	0 3 8	0 3 0

The settlement of the whole district will be open to revision in 1894-95.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Bankot Petta (Suvarndrug).

Appendix to Superintendent's Report.

Neither areas nor rates are shewn. Financial results, on introduction of the new assessments, proved to be—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
44,358	35,890	—8,468	19

The assessed area is all rice land or warkas.

Revenue Commissioner's para. 1.

The settlement was introduced in 1866-67.

II.—Subah Petta (Suvarndrug).

Report, paras. 5, 7, 8.

Areas and financial results are not shewn. The maximum rates were—

	Rs. As.	Rs. As.
Rice lands	... 9 0	to 4 0
Gardens	... 15 0	„ 10 0
Rabi	... 1 8	.....
Warkas	Between 5 and 6 annas.	

Rice lands bearing a second crop are liable to an additional assessment of two annas on the rupee, up to a maximum of Rs. 10.

Para. 1.

The settlement was introduced in 1868-69.

III.—Khed Petta (Suvarndrug).

Collector's para. 2.

Superintendent's para. 2.

Superintendent's para. 3.

Areas are not shewn, but practically all cultivation is either rice or dry crop (warkas). The settlement, as originally made in 1867-68, had maximum rice-rates running up to Rs. 8 and Rs. 9. In the following year these highest rates were reduced to Rs. 7 and 8, and other reductions were also made, to the amount of Rs. 5,640 altogether, but this measure of relief being still considered inadequate, the assessment of rice lands was lowered

two annas in the rupee all round (and four annas in the rupee for 19 villages), involving a further loss of Rs. 12,000, and leaving the new revenue demand approximately as below:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
87,148	91,170	4,022	4½

IV.—Subah Petta of Dapuli Taluqa.

The rice lands are peculiarly good, and their maximum rates varied from 4 to 9 rupees. The actual results of settlement were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
88,773	1,10,710	21,937	24·7

Average rates—

		Rs.	As.	P.
Rice ...	...	3	14	4
Gardens ...	...	7	12	0
Warkas ...	...	0	8	0

The settlement was introduced in 1868-69.

V.—Chiplun Taluqa.

(*a*).—*One hundred and six villages.*

Maximum rice-rates, as originally sanctioned, ranged from Rs. 8 to Rs. 2-8, giving an average of Rs. 3-8-1. The average warkas rate was 3½ annas, and the average rates on the very small rabi and garden areas were Rs. 1-2-4 and Rs. 3-8-6 respectively. Subsequently, in consequence of complaints by the ryots, the rice assessments were reduced, so as to bring the average rate per acre down to Rs. 2-15-10, and the final financial results stood as follows:

Old assessment (average of 20 years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
87,852	89,844	1,992	2·27

The settlement was introduced in 1871-72.

(*b*).—*Thirty-five villages.*

	Maximum rates.					
	Rs.	As.		Rs.	As.	
Rice lands	8	0	to	5	0	
Rabi	2	0		...		
Gardens	6	0		...		
Warkas	0	6	to	0	4	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
38,749	39,952	1,203	3·3

The settlement was introduced in 1871-72.

VI.—Gohaghar Taluqa.

This taluqa is poor in resources, and labours under great disadvantages as regards markets and roads. The interior is extremely rugged, intersected in all directions by deep ravines, at the bottom of which patches of rice land are usually found. Cocoanut gardens exist along the coast. Nearly all the cultivation is rice. The taluqa was settled in two instalments.

(*a*).—*Thirty-one villages.*

	Acres.
Area under rice	2,848

The rabi area is inconsiderable.

	Maximum rates.			
	Rs.	As.	Rs.	As.
Rice	7	0	to 5	0
Warkas	0	6	„ 0	4
Gardens	12	0	...	

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
17,643	19,423	1,780	10

giving an average rice-rate of Rs. 3-7-3.

(*b*).—*Seventy-three villages.*

	Maximum rates.			
	Rs.	As.	Rs.	As.
Rice lands ...	8	0	to 5	0
Rabi (23 acres) ...	2	0	...	
Gardens ...	12	0	...	
Warkas ...	0	6	to 0	4

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
41,827	44,684	2,857	6·9

Average rates—

	Rs.	As.	P.
Rice	3	5	4
Warkas	0	3	8
Gardens	5	9	7

The settlement was introduced in 1871-72 and 1872-73.

NORTH CANARA.

Area	...	4,235 *sq. miles.*
Population	...	398,406.

Collector of Canara's Memorandum of 18th May 1866.

NORTH CANARA used to be a district of the Madras Presidency. Its old land revenue system was based upon assessments made by the Rajas of Bijanagar in the early part of the 14th century, modified three centuries later by an enhancement of 50 per cent., and further increased under Mysore rule. Considerable reductions were made by Sir Thomas Munro in 1800, and in 1819-20 the summary settlement of South Canara was extended into the southernmost taluqas of North Canara. Difficulties were met with in collecting the revenue, though it was known that the Government demand was very moderate as a whole. In 1832 a special officer was deputed to enquire into the state of the district. By this time the incidence of the revenue demand had become extremely unequal. The assessments were by estates, not by fields; they were determined by general considerations rather than by the actual capabilities of the soil; there was no trustworthy record of areas or boundaries; some estates had been fraudulently increased out of Government waste, others had deteriorated from gardens to rice land, or had fallen out of cultivation altogether, but the Government demand remained the same. The Native officials were suspected of profiting extensively by conniving at frauds. In 1848 a report was called for as to the expediency of a survey, but no action was taken. The district was transferred to Bombay in 1862, and came under survey and settlement without further delay.

From the Taluqa Settlement Reports.

Rice is the staple crop, the rainfall being too heavy for any but the inferior dry-crop grains (ragi, savi, &c.). In the southern and western parts, rich gardens of areca-nut and spices are found. The inland taluqas contain large areas of uninhabited hill and forest, but in the cultivated tracts on the sea coast the population is dense. The maritime taluqas of Carwar, Kumta, and Honawar enjoy special advantages for disposing of their produce, and are the highest assessed. In the inland tracts, which were comparatively inaccessible to the Madras officials, fraudulent encroachment on waste was commonest, and the survey revealed from 40

to nearly 60 per cent. of concealed cultivation. But the largest enhancement of revenue—116 per cent.—effected by the settlement was in the Carwar taluqa, where a regular system of defrauding the revenue had flourished from ancient date. The Kumta taluqa, on the other hand, having always been accessible and well cultivated, had been more closely looked after, and the revenue increase was thus smaller here than anywhere else in the district, while occasionally, for the first time in the Canara settlement, large reductions had to be made in assessing individual villages.

Administration Report, 1873-74, pages 219, 220.

Land tenure in Canara approximated more closely than elsewhere to a proprietary right in the land. Relying on this circumstance, the landholders combined (in February 1871) to resist the revision of the assessment, and to contest the new rates by litigation in the civil court. The case was decided by the High Court in favour of the Government, on all points, on the 1st April 1875, and the Privy Council upheld the decision on appeal. The agitation has long died out, and the new settlements have been introduced with the co-operation of the people.

Minutes appended to the first Canara Settlement Report (62 villages of Supa).
Administration Report of 1870-71, page 270.
Ditto, 1876-77, page 101.

The general results of the North Canara survey and settlement from 1863 to the 5th June 1880 are stated as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
3,27,505	4,99,336	1,71,831	52·46	4,52,239

Maximum rates, and the average rates resulting from their application, varied in the different taluqas as shewn below:

	Maximum rates.				Average rates.					
	Rs.	As.		Rs.	As.	Rs.	As.	P.	Rs.	As. P.
Dry crops	1	0	to	0	8	0	8	3 to	0	4 6
Rice	6	8	„	3	0	4	1	9 „	1	15 10
Garden	14	0	„	8	0	12	0	4 „	7	0 0
Total						3	5	7 „	1	8 8

The settlement of the district expires in 1893-94.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

The following abstracts of the settlement reports shew how the settlement has been made in all the taluqas for which reports are forthcoming. They do not include some of the last-settled tracts; hence the total of the figures will not correspond with the financial results for

the whole settled portion of the district, as shewn above.

I.—Supa Taluqa.—The settlement was introduced into 51 villages in 1863-64 and 1864-65, and into 62 villages in 1872-73, with these results—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
27,555	49,596	22,041	80

Nearly half the increase was due to the bringing on record of concealed cultivation. The greater part of the taluqa is forest. Most of the cultivated area is under rice, the rainfall being too heavy for good dry crops. Maximum rates were—

	Rs.	As.		Rs.	As.
Dry crops ...	0	14	to	0	10
Rice ...	6	0	„	4	0
Garden (14 acres) ...	8	0		...	

giving average rates as below :

	Rice land.			Dry crops.		
	Rs.	As.	P.	Rs.	As.	P.
20 villages ...	2	7	11	0	6	4
31 do. ...	2	6	3	0	6	6
62 do. ...	1	14	10	0	4	11

The general average was Rs. 1-8-8 per cultivated acre. The taluqa contains little garden land of any great value.

II.—Yellapúr Taluqa.—The settlement was introduced into 96 villages in 1867-68, into 20 villages in 1869-70, into 24 villages in 1872-73, and into 16 villages in 1878-79.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
46,219	71,624	25,405	54·8

The survey added from 26 to 40 per cent. to the recorded cultivated area. Most of the cultivation is rice, but there is a large area of most excellent garden lands producing areca-nut, cocoanuts and spices.

	Maximum rates.				Average rates.			
	Rs.	As.		Rs. As.	Rs.	As.	P.	Rs. As. P.
Dry crop	1	0	to	0 8	0	7	9	to 0 6 1
Rice	5	0	„	4 0	2	10	8	„ 1 15 10
Gardens (inconsiderable)	12	0	„	10 0	12	0	1	„ 7 0 11

General average per cultivated acre, Rs. 1-10-11.

III.—Kumpta Taluqa.—The settlement was introduced into 42 villages (including

one of Honawar taluqa) in 1876-77; and into 22 villages in 1879-80.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
52,733	74,220	21,687	40

In this taluqa is a large extent of garden land. There is a kind of sandy soil along the sea coast, called *polan*, which grows cocoanut trees, and can be adapted to rice cultivation by removing the surface layer of sand.

	Maximum rates.		Average rates.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Dry crop ...	... 0 12	to ...	0 7 8	to 0 5 3
Rice ...	... 6 8	„ 3 0	3 6 8	„ 3 2 8
Gardens ...	... 10 0	„ ...	8 9 3	„ 7 0 0
Polan ...	... .		1 10 1	„ 1 2 5

General average, Rs. 3-1-3 per cultivated acre.

IV.—Sirsi Taluqa.—The settlement was introduced into 64 villages in 1869-70, 39 villages in 1872-73, and 29 villages in 1879-80.

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
32,153	52,491	20,338	63·3

The survey increased recorded cultivation by 36 to 60 per cent.

	Maximum rates.		Average rates.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Dry crops ...	... 1 0	to 0 14	0 8 3	to 0 6 8
Rice ...	... 5 0	„ 4 0	2 7 3	„ 2 1 0
Gardens ...	... 14 0	„ 12 0	12 0 4	„ 10 15 11

General average, Rs. 1-10-8 per cultivated acre.

V.—Carwar Taluqa.—The settlement was introduced into 18 villages in 1870-71, into 28 villages in 1871-72, and into 15 villages in 1873-74.

	Acres.
Government arable area	... 33,879
Do. cultivated do.	... 32,019

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
49,372	1,04,389	55,017	111·6

	Maximum rates.		Average rates.	
	Rs. As.	Rs. As.	Rs. As. P.	Rs. As. P.
Dry crops ...	... 0 12	to 0 10	0 7 2	to 0 4 5
Rice ...	... 6 8	„ 3 8	4 1 9	„ 2 7 11
Gardens ...	... 9 0	„ 8 0	7 14 11	„ 7 0 0
Polan ...	... 1 15	„ 1 3	1 15 0	„ 1 2 4

General average, Rs. 3-5-7 per cultivated area. There is a considerable extent of garden land in this taluqa. The great enhancement of revenue is explained by the frauds which prevailed before settlement.

SINDH.

GENERAL REMARKS.

Bombay Revenue Resolution No. 1438, dated 10th March 1875, paragraph 3.

Administration Report of 1871-72, pages 65, 66.

Land Tenure.

LAND in Sindh is held by a large number of peasant occupants, similar to the ryots of the Deccan, and by a much less numerous body of large proprietors. The former tenure is supposed to have developed itself out of the latter, by redemption of the tenant's holding, or by lapse of the zemindar's right. In some of the northern districts of the province, there is a species of heritable and transferable tenancy, subject to payment of a quit-rent to the zamindar, but the settlement is made with the tenant, and he is shewn in the field register as the occupant, the amount of quit-rent to the superior proprietor being also recorded. Village communities are believed to have once existed in Sindh, but at present, though the village remains, with its recognized lands and limits, and with groups of families, generally acknowledging one common head, all trace of organization for administrative purposes has passed away.

Selections No. XVIII., 1855, page 35.

Summary settlements.

Upon the introduction of civil administration in 1847, a seven-years' settlement was made by measurement of crops and commutation of the Government share at assumed prices on ryoti lands, and by leasing out the zemindari estates at lump rents. Prices subsequently fell, the assessments proved heavy, and the settlement expired in 1853-54 amidst general demands for reversion to the old native system of dividing the crop and taking revenue in kind. At the same time the revenue records were exceedingly imperfect. There were no village maps, nor even any taluqa lists of villages; boundaries were undefined; and land registers were unknown, all existing information being exhibited under the name of the person by whom, not of the place for which, revenue was to be paid. It was therefore determined to institute a "rough survey and settlement," as preliminary to a complete revenue survey and settlement at some future time. Settlement officers were to demarcate village boundaries for the Topographical Survey then at work in Sindh, and were then to measure the fields, fill in the village maps, classify the soils, and make the settlement.

Selections No. XVIII., 1855, pages 8, 9. Papers relating to Revenue Survey in Sindh, 1875, page 43.

The 'rough survey and settlement.'

Selections No. XVIII., 1855, pages 12 to 14.

This "rough survey and settlement" went on till 1862. By that time about

one-third of the provinces had been surveyed for settlement purposes, at a cost of 8½ lakhs; but no settlements had been made, the settlement officers having been fully occupied in demarcating boundaries for the Topographical Survey, and afterwards making their own interior survey of the villages. In the absence of precise rules, the system followed had more or less modelled itself upon the Deccan revenue survey, and the assimilation was now made complete by the deputation, in 1862, of a Bombay settlement officer to draw up a scheme of classification and settlement for Sindh. The rules then framed still form the basis of settlement operations in Sindh, though in practice they have been subjected to great and material modification as regards details, so that the present form of settlement differs largely from that adopted about 1864-65, the failure of which became more and more evident eight or ten years later. The organisation of the department was completed by 1864-65, and regular survey and settlement work has been going on ever since. At first there were two Superintendents, one upon the right bank, and the other on the left bank of the Indus; but a single officer has had charge of the department since 1874.

Selections No. XVIII., 1855, page 45.

Beginning of the present survey and settlement.

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Cultivation in Sindh is almost entirely dependent upon irrigation. A certain area of land, composed of rocky detritus, along the skirts of the hills, can be cultivated with the help only of rain; but even lands of this kind are generally dependent upon hill-torrents, which are caught in enclosed fields and allowed to soak into the soil. Excepting these tracts, the province consists generally of alluvial deposit, with a greater or less admixture of sand. The classification rules of 1862 divided this soil into four orders, differing from each other by their proportion of sand, and these again are liable to be degraded by 'faults,' viz., the presence of salt, a sandy substratum, or an uneven surface. The second stage of the classification-process relates to the nature and quality of the water-supply. The greater part of Sindh is watered by canals filled by the rising of the Indus. They are constructed so as to receive water during the inundation season, and most of them lose their supply when the river falls to low-water mark. Some of them are under the Irrigation Department, others are managed by the zamindars. In the latter case, the zamindars are bound to do the annual cleaning-out and repairs, and the expenses are recovered by

Natural characteristics of the province.

Pages 84, 85.

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a special cess, if the Government has to step in and take the duty out of their hands. Irrigation from these canals is either by flow or by lift, that is, by the Persian wheel. Besides the canal-water area, a considerable extent of country, especially in the Shikarpur district, is rendered capable of cultivation by natural flooding. These floods are quite beyond control, and often do more harm than good; but where they are tolerably certain, as is the case with the Manchar lake in the Karachi district, they are very favourable to the growth of rabi crops, especially wheat, on the land which has been temporarily submerged. Thus, in making the settlement, water-supply has to be classed under one of three heads, viz., flow *(moke)*, lift *(charkhi)*, or floods *(sailábi)*, and then further classified according to the sufficiency and constancy of the flow, the expense incurred in bringing the water by lift to the field, and the certainty and duration of the flooding. There is also a sub-division of the *charkhi* class, called *dáka* or 'perennial wheel,' sufficing to water a wheat-crop after the autumn harvest. Such irrigation is always from water-holes where the flood water has collected.

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The extent of well-irrigation is comparatively inconsiderable.

Some changes have subsequently been made in the settlement system of 1864-65, as described above.

Selections, No. XVIII. of 1855, page 89.

Papers relating to revenue survey in Sindh, page 66.

Zamindars' waste lands.

Both the original scheme of 1853-54, and the new scheme of 1864-65, contemplated settlement of the large estates with the zamindar or zamindars at a lump revenue demand, field survey and assessment being carried out only where it was necessary to determine the respective liability of sharers. But in practice, field survey and assessment have been made the invariable rule, and the consequences, as regards waste lands, proved disastrous to the zamindars, who had hitherto paid revenue on cultivated land only, but now became liable for the assessments fixed on all the arable waste in their estates, which they were unable to cultivate, and too proud to give up. To remedy this evil, it was determined in 1875 that in the new settlements the zamindars should be given leases of their estates, whether cultivated or waste, for lump sums calculated at a certain proportion (not exceeding 30 per cent.) below the aggregate of the field assessments as fixed by the survey. No limits have been laid down as to area, except that the waste so included must

Resolution No. 1438, dated 10th March 1875.

not exceed what the holder can cultivate permanently or in rotation during the term of settlement. As a matter of fact, however, no leases have yet been issued under this system, and it seems doubtful if any zamindars will accept such a lease and bind themselves to a definite payment without claim to remission, in preference to the ordinary form of settlement without lease described in the next paragraph and called the ' new system.'

Fallow lands.

Again, under the survey of 1864-65, fallows were allowed for in fixing the assessment, that is, the cultivator was allowed to hold three times as much land as was needed for a single year's crop, paying what would be equivalent to full assessment on one-third, upon the supposition that probably two-thirds would be left fallow. Thus, if the cultivator could manage to crop his land every year without fallowing it, he would hold it at one-third its proper rent. Failing this, he might for one year get the full benefit of the whole at one-third of the fair assessment, and then throw it up and take another piece to treat in the same way, thus defrauding the revenue. This was largely done in some parts of the country. The taking up of other land prevented the collections from falling off as much as might have been expected. Still a very considerable decrease in the revenue did occur in the latter year of the ' old system' of settlement, regularly demarcated and assessed land being exhausted and abandoned, and resort made to undemarcated and unassessed lands, which had to be demarcated and assessed in a summary and imperfect manner by native agency under the Collector's orders. An attempt was made to check this by ruling that no unassessed waste should be given out for cultivation if there was more than 15 per cent. of the assessed waste still unoccupied. Again, the old practice as to fallows was objectionable as tending to diminish canal revenue. Cultivators at the head of canals took a treble share of water at single rates, while those at the tail got no chance of paying for water at all, as the canals are calculated to give only water enough for one year's crop-area. This difficulty has been got over by reducing the size of survey ' numbers' to such an area as can be fully cultivated in a single season; by fixing the assessment thereon at the full rate, such assessment to be paid in full if the number or any portion of it is cultivated; and by granting the cultivator a lien on every such number for one or

Paras 10, 11.

The ' new system.'

two years (as the case may be) after he has ceased to cultivate it, no assessment being chargeable for such period. This permits the necessary amount of fallowing, and also provides for cases of accident in which a temporary contraction of cultivation is necessary or convenient. Provision is also thus made for the realization of the full revenue on assessed land actually cultivated, and all encouragement to the resignation of land after exhausting it by continuous cropping is removed. After the period allowed for free fallow has passed, assessment must be again paid, or the right of occupancy lapses, and the land may be given to any other applicant. The experience of this the 'new system' of settlement has proved most satisfactory so far as it has gone. Alternative with this is the plan of giving the cultivator, at one-third or other diffused rate, all the land in his holding usually cultivated on the fallow system, on the condition that he shall hold it without any option of relinquishment for the full ten years of the settlement. But the alternative has been made use of to a very small extent, if at all, in settlements under the 'new system.'

Resolution No. 845, dated 13th February 1873, and subsequent correspondence (Mohbat Dera collection).

Principle of grouping villages for maximum rates.

The method adopted in grouping villages for maximum rates was called in question by the local Government in 1873. Settlement officers had hitherto been guided principally by the water-supply, population and general condition of a village, leaving propinquity to markets out of consideration. This departure from the Bombay rules was justified by the local officers on the ground that the points looked to are the only ones really decisive in Sindh settlements, while market proximity has practically no influence except in the immediate neighbourhood of large towns, or along the banks of the Indus.

Resolution No. 6003, dated 30th October 1873.

After lengthy correspondence, the question was allowed to drop. The practice has remained in force, and may be justified on the following grounds: Maximum rates do and must vary according to quantity and certainty of rainfall in different tracts. In Sindh the rainfall may be called *nil*. The inundation supplies its place. It is plain that some tracts will on the average be more favoured than others by the inundation, and though the ordinary water-supply may be valued in classification, yet general circumstances affecting the value of the inundation over a tract may not improperly be met by a reduction of the maximum rate or standard of assessment.

Amalgamation of Sindh and Bombay surveys.

Sanction has been given in the present year (1880) to the amalgamation of the Sindh revenue survey with the Bombay revenue survey as regards gradation and pay.

Length of settlement term.

Sindh settlements are for a period of ten years.

Work done under the 'old system.'

From the foregoing it will have been seen that the revenue survey and settlement of Sindh, in one shape or another, have now been going on for nearly 25 years. The first settlement—that of the Sakkar taluqa of Shikarpur—was made in 1863, and in the same year proposals were submitted for the settlement of the Sehwan taluqa of Karachi. Neither of these settlements proved a success. In Sakkar, a taluqa of small occupants, the cultivators took alarm at what they conceived to be "a plan for rigorously exacting revenue under all circumstances whatever," and made engagements with banyas for guaranteeing the assessments, on condition of receiving half the crop—an arrangement which accounts for much of the ryot's indebtedness at the present time. Cultivation decreased during the settlement term, notwithstanding an increase of population, and the pressure of the assessments is said to have hindered the accumulation of stock and capital. When the Sahwan settlement came up for revision in 1875, it was characterised (by the officer who had originally made it) as "a disastrous failure," the main reason being the application of a rigid revenue demand to the fluctuating cultivation of the Manchar lake.* But these are single taluqas, and Sehwan is most exceptionally circumstanced. The later settlements have given better results. In twelve taluqas settled between 1865 and 1872, the average annual realizations up to 1873 shewed an increase of 23 per cent. over the average collections before settlement.

Sindh papers, page 203.

G. O. 1439, 10th March 1875, paras. 16, 17, 22.

* See Karachi notes.

Survey and Settlement Commissioner's No. 386, dated 7th March 1873, para. 10 (Mohbat Dera collection).

Of the 41 taluqas in the three Sindh collectorates, 31 had been brought under the 'old system' of settlement by 1873-74. Ten taluqas, though partly or completely surveyed, have been held over for settlement in consequence of the visible failure of the 'old system' in other taluqas. They will be settled on the 'new system' in due course, after revision of survey.

Weak points of the 'old system.'

The old Sindh settlement failed because it was worked in a manner which was never anticipated or guarded against. Large survey numbers were made, comprising enough land to form a moderate holding and to allow for the fallowing of

one-half or two-thirds of the area. The assessment was fixed as that which one-third or one-half of the area might justly pay. The people being in no way checked soon found it to their advantage to cultivate one number entirely and to exhaustion, and then to throw it up entirely and take up another surveyed and assessed number from out of unoccupied waste if available. As the unoccupied waste regularly demarcated and assessed was of limited area, in the gradual extension of cultivation, the practice would have soon tended towards producing its own remedy, for all land would have become occupied, and a tendency to cultivate, with due regard to some care of the land, must have occurred. But there was a large area of land as a rule in every village, supposed to be in excess of any immediate requirements, and therefore not demarcated or assessed by the survey. Portions of this land the people applied for to the Collectors, who measured it off and assessed it by means of their native establishment. Any efficient check on whose proceedings was next to impossible. Thus regularly settled and assessed lands were resigned, and lands measured and assessed by the Collector were taken into occupation instead. From such measurements and assessments it was an impossibility that serious fraud and error could be absent. Moreover, these perpetual changes of occupancy undue calls upon the Collector's time and attention, leaving less leisure for that careful watching and judicious granting of remissions, so necessary to successful revenue administration in Sindh. These were some of the principal causes of the financial failure of the 'old system' settlements.

Work done under the 'new system.'

The new system of settlement is at present in operation in nine taluqas, and by the end of the present season will have been introduced into eleven taluqas in all. It appears to be in its results satisfactory, both to the people and to the Government. In Sindh, every thing depends on the nature of the inundation which varies much in different years. It is therefore impossible to draw any decided conclusions from the revenue results of one or two years; still, so far as can be judged from the experience of so short a term, the new system of settlement will work well, and under it a considerable increase of revenue can be obtained.

It is, however, essential to the proper working of the 'new system,' or any system, that the subordinate revenue establishments be placed upon a proper footing. The number of village accountants is at present utterly insufficient (often not more than three or four to a taluqa), while the duties required

them include the inspection of all lands, to ascertain which are cultivated and consequently liable to pay assessment. On the accuracy with which this duty is performed depends the amount of the revenue demand. The subject of the re-organization and increase in the numbers of those officers has been long under consideration, and is now before the Government of India.

Financial results.

The cost of Sindh settlements, whether original or revised, can be shewn in an approximate fashion only. The existence of the department having been continuous since its first institution in 1864, and no separate account having been kept for each taluqa, it is impossible to single out the cost of any one settlement, or even to distinguish satisfactorily between revised and original settlements. In one taluqa only (Dadu) has the cost of revision been expressly calculated. Similar calculations have been ordered in the case of all revised taluqas, but their preparation by the Sindh settlement department will be a work of time. The Dadu calculation makes out an expenditure of Rs. 65,159 in assessing a revised revenue of Rs. 83,316. Again, the progress reports of the settlement shew that from 1870-71 to 1877-78, both inclusive, the financial results achieved were as follows:

Old assessment.	New assessment.	Difference.	Per. centage.	Cost.
Rs.	Rs.	Rs.		Rs.
10,89,356	12,60,138	1,70,782	15·7	11,14,840

The Survey and Settlement Commissioner has formed an estimate of the financial results of the revised settlement alone; including, of course, the settlement of the ten taluqas where the original settlements have been held in abeyance. According to this estimate, the resettlement of the whole province will take about eight years and will cost about 16 lakhs; and it may be expected to raise the revenue collections from Rs. 37,30,000 to Rs. 42,30,000, *i.e.*, by five lakhs, or 13½ per cent.

The actual gain by revision of settlement can be accurately calculated for the six taluqas shewn in Statement B appended to this Note. The 'old assessments' are the average collections of the last five years of the old settlement. The 'new assessments' are the actual collections under the new settlements, so far as they have gone; that is, the average of two years in the case of one taluqa, and the actuals of one year in the case of the other five taluqas. The results are as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
274	4,12,296	43,022	11·65

The total cost of survey and settlement work in Sindh, reckoned from the institution of the 'rough survey' in 1854-55, has obviously been disproportionate to the results attained. An attempt might be made to estimate the whole cost in the following manner:

	Lakhs.
Expenditure on the 'rough survey' ...	8½
Expenditure from 1864-65 to 1870-71, at a lakh and a half a year ...	7½
Expenditure from 1870-71 to 1877-78, as shewn above	11
Expenditure from 1878-79 to conclusion of revision operations in 1884-85, at two lakhs a year ...	12
TOTAL ...	39

This is almost equal to the whole revenue of the province. For this expenditure, 31 taluqas will have been settled twice, and 10 taluqas will have been settled once. But as the original settlements of the 31 taluqas were in many cases unsuccessful, the two settlements cannot be considered as two successive enhancements of the land revenue.

Facility of revision.

The settlements now making under the 'new system' are not expected to require any re-measurements or re-classification, whether of soil or water-supply, on their expiration. It is believed that it will be possible to frame the new assessments of that day with reference simply to general considerations. But land affected by fluvial action will of course have to be re-measured. Future revisions of settlement should be more profitable than those already made. The revenue conditions of the province have been greatly changed by the opening of the Suez Canal, affording direct communication with the European wheat market, and also by the railway, now traversing the entire length of the province. Sindh is able to pay a considerably higher revenue now than it was ten years ago.

The revenue demand of Sindh for the last four years has been as follows:—

District.	1875-76.	1876-77.	1877-78.	1878-79.
	Rs.	Rs.	Rs.	Rs.
Karachi ...	6,25,520	6,76,714	6,18,945	7,48,967
Haidarabad ...	10,19,362	11,42,389	11,44,872	14,15,567
Shikarpur ...	16,35,648	16,04,368	15,32,733	20,57,028

The average percentage of uncollected balances of all kinds during these four years has been 3½ in Karachi, 3·85 in Haidarabad, and 8 in Shikarpur. The fluctuations in the revenue demand exemplify the uncertainties of Sindh cultivation.

Tables.

Subjoined are two tables showing the number of taluqas in Sindh, whether they have come under settlement, original or revised, and the results of the new settlements in the taluqas which have come under revision.

A.

List of taluqas in Sindh, distinguishing between original and revised settlements.

Collectorate.	Taluqa.	Original settlement made in	Revised settlement made in	Remarks regarding revised settlement.
Kurrachee	Kotri ...	1863-64...	1876-77...	Sanctioned for 10 years.
	Sehwán ...	1864-65...	1877-78...	Ditto ditto.
	Dádu ...	1867-68...	1878-79...	Ditto 1 year.
	Mánjhána ...	1868-69	...	To be revised this year, 1879-80.
	Tattá (2) ...	...	...	Not settled.
	Mirpur Sákro (2) ...	...	...	
	Ghorábári (2) ...	...	...	
	Sháhbandar (2) ...	...	...	
	Játhi (2) ...	...	...	
	Mirpur Batora (2)...	...	...	
	Belo (2) ...	...	...	
Hyderábád	Kandiáro ...	1864-65...	1878-79...	Sanctioned for 1 year.
	Naushahra ...	1866-67...	1878-79...	Ditto ditto.
	Mora ...	1867-68...	1878-79...	Ditto ditto.
	Sakrand ...	1868-69...	1878-79...	Ditto 10 years.
	Sháhdádpur ...	1869-70...	1879-80...	Ditto 1 year.
	Mirpur Khás ...	1870.71...	...	
	Hálá ...	1871-72...	...	
	Tánda Aláyár ...	1872-73...	...	
	Hyderábád ...	1872-73...	...	
	Mohbat Dera ...	1874-75...	...	
	Guni (1) ...	...	...	Not settled.
	Bága ka Tánda (1) ...	...	...	
	Badin (2) ...	...	...	
Shikárpur	Sakar ...	1862-63...	1876-77...	Sanctioned for 10 years.
	Rohri ...	1866-67...	1877-78..	Sanctioned for 2 years.
	Kakar ...	1867-68...	...	
	Sayyidpur ...	1868-69...	...	
	Ghotki ...	1868-69...	...	
	Mehar ...	1869-70...	...	
	Tigar ...	1869-70...	...	
	Nasirábád ...	1870-71...	...	
	Labidaria ...	1870-71...	...	
	Lárkhána ...	1870-71...	...	
	Kambar ...	1870-71...	...	
	Mirpur Mathelo ...	1870-71...	...	
	Sujáwal ...	1871-72...	...	
	Ratadera ...	1871-72...	...	
	Ubáura ...	1871-72...	...	
	Shikárpur ...	1873-74...	...	
	Nausháhra Abra ...	1874-75...	...	

NOTE—(1.) The survey operations in these taluqas were all complete and ready for settlement on the 'old system,' but the 'new system' having been introduced the settlement was placed in abeyance till the revised survey can be completed.

(2.) In these taluqas survey operations for a settlement under the 'old system' were more or less complete; but on the introduction of the 'new system,' further proceedings in survey were placed in abeyance.

None of the taluqas of the Thar and Parkar and Jacobabad frontier districts have yet been brought under survey settlement, though measurement was more or less completed in them.

B.

Comparison of original and revised settlements, so far as data regarding the latter are on record in the Survey Commissioner's Office.

Collectorate.	Taluqa.	Last five years of old settlement.		Revised settlement.		Difference.	Percentage increase or decrease
		Years.	Collections.	Years.	Collections.		
			Rs.		Rs.	Rs.	
Kurrachee ...	Kotri ...	1867-68 ...	8,602				
		1868-69 ...	7,354				
		1869-70 ...	7,681				
		1870-71 ...	6,033				
		1871-72 ...	7,365	1876-77 ...	9,214		
		Average ...	7,787	.....	9,214	Increase. 1,427	18·3
Ditto ...	Sehwan ...	1869-70 ...	85,313				
		1870-71 ...	97,849				
		1871-72 ...	79,961				
		1872-73 ...	71,368				
		1873-74 ...	72,339	1877-78 ...	71,113		
		Average ...	81,350	.....	71,113	Decrease. 10,237	12·5
Ditto ...	Dádu ...	1872-73 ...	69,543				
		1873-74 ...	68,647				
		1874-75 ...	41,437				
		1875-76 ...	78,842				
		1876-77 ...	54,827	1878-79 ...	63,316		
		Average ...	62,539	.....	63,316	Increase. 20,777	33·2
Hyderabad ...	Sakarand ...	1873-74 ...	67,700				
		1874-75 ...	70,890				
		1875-76 ...	66,047				
		1876-77 ...	63,066				
		1877-78 ...	60,113	1878-79 ...	96,396		
		Average ...	65,563	.....	96,396	Increase. 32,835	50·1
Shikarpur ...	Sakkar ...	1867-68 ...	92,796				
		1868-69 ...	86,806				
		1869-70 ...	84,275				
		1870-71 ...	89,023				
		1871-72 ...	86,416	1876-77 ...	96,327		
		Average ...	88,261	.....	96,327	Decrease. 1,934	2·2
Ditto ...	Rohri ...	1871-72 ...	62,945				
		1872-73 ...	63,269				
		1873-74 ...	64,296				
		1874-75 ...	64,496	1877-78 ...	60,785		
		1875-76 ...	63,876	1878-79 ...	67,072		
		Average ...	63,774	.....	63,928	Increase. 154	0·2

SHIKARPUR.

Area ... 8,813 *sq. miles.*
Population ... 776,227.

Land Revenue (1878-79), *Rs.* 20,57,028 *(including quit-rents, &c.)*

From the taluqa settlement reports, and the Administration Report of 1878-79.

THE Shikarpur district is peculiarly liable to floods from the Indus and hill streams. Most of the rabi cultivation depends upon inundation of this kind (it is called *let*), and as the height and duration of the floods are entirely uncertain, the usual plan has been followed of levying the revenue demand from only such fields as are cultivated, with the proviso that the cultivation of any portion of a field renders the holder liable for the assessment on the whole. Irrigation by wheel is little known in this district, and in some parts the lands watered by flow are capable of producing a rabi crop after their kharif crop. Assessments are consequently high. Gardens exist only in the neighbourhood of Shikarpur. They have been classified according to their proximity to the city, and the owners have been offered the option (as in parts of the Haidarabad district) of redeeming so much of the assessment as represents the old *sardarakhti* or tree-rate, at ten years' purchase, by payment in instalments. Well-irrigation, wherever it exists, has been exempted from the special rate levied on it before settlement. The loss on this account in four taluqas was Rs. 12,426.

Wheat is a staple crop in the taluqas visited by the *let* floods. Elsewhere the principal crops are rice and Indian millet (jowar). These three staples, in nearly equal proportions, occupied 80 per cent. of the cultivated area of 1878-79.

The Indus Valley railway traverses the district from north to south.

In two taluqas (Sakkar and Rohri) the original settlements of 1862 and subsequent years have expired, and revision has been made. In the rest of the district some of the old settlements have expired and are awaiting revision, and others do not expire for three or four years to come. In exhibiting financial results, the old settlements must be distinguished from the revised settlements. Taking the former first,

it ought to be observed that revenue collections in Sindh fluctuate so greatly from year to year that the only safe ground of comparison is a pretty extensive average. Such an average is shewn under the head 'old assessments'; but the 'new assessments' in almost every case represent the assessments estimated on the area occupied in the year of settlement, or the actual revenue assessed on the introduction of the settlement, and thus are the figures of a single year only. With this proviso, the revenue results of the old settlements at present current in the Shikarpur district may be shewn as follows :

Old assessment.	New assessment.	Difference.	Per. centage.
Rs.	Rs.	Rs.	
13,52,542	15,44,961	1,92,419	14·2

As for the revised settlements, the results appear as follows :

Old assessment (average of ten years).	New assessment (average of two years).	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,52,715	1,50,295	—2,420	1·6

The maximum rates per acre adopted for the different kinds of cultivation, and the average rates resulting from their application, varied in the manner shewn below :

Maximum rates of original settlements.

Taluqa.	Irrigation by: Flow.	Wheel.	Perennial wheel.	Floods.
	Rs. As. Rs. As.	Rs. As. Rs. As.	Rs. As. Rs. As.	Rs. As. Rs. As.
Sayyidpur ...	4 8 to 4 0	2 0 to 1 14	5 8 to 5 0	6 0 to 5 8
Kakar ...	3 8 „ 2 0	1 8 „ 0 12	2 8 „ 2 0	3 0 „ 2 8
Tigar ...	3 0 „ 2 0	1 8 „ 1 0	3 0 „ 2 0	3 4 „ 2 8
Ubaura ...	3 8 „ 1 8	2 0 „ 1 10	4 8 „ 3 0	4 8 „ 3 0
Kambar ...	4 0 „ 1 6	1 8 ...	3 0 ...	... ...
Larkhana ...	4 0 „ 2 8	1 8 „ 1 0	4 0 „ 2 8	4 0 ...
Labidarya ...	3 0 „ 2 0	... ...	2 8 ...	... ...
Rata Dera ...	3 0 „ 1 4	1 4 „ 0 8	... ...	4 0 „ 3 0
Nasirabad ...	3 8 „ 1 3	... ...	3 8 „ 2 8	1 4 ...
Sujawal ...	2 8 „ 1 0	1 4 „ 0 8	... ...	... ...
Shikarpur ...	3 8 „ 2 12	1 8 „ 1 4	... ...	... ...

Maximum rates of revised settlements.

Sakkar ...	3 4 to 1 8	5 0 to 1 8	... ...	4 0 to 2 12
Rohri ...	Rates not shewn.			

The high maximum rates on dâka and sailabi lands have been used in tracts where the uncertainty of the floods has necessitated the limitation of the revenue demand to such fields in

a holding as are actually cultivated in the year.

Average rates of original settlements.

	Flow.			Wheel.			Perennial wheel.			Floods.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Kakar ...	1	15	3	0	14	0	2	5	3	1	8	1
		to			to			to			to	
	1	5	8	0	12	7	2	1	9	1	0	6
Tigar ...	1	7	10	1	4	1	2	2	1	1	12	11
Kambar ...	2	0	1	1	5	8	2	15	0		...	
Larkhana ...	2	1	2	1	2	9	2	15	0	2	1	11
Labidarya ...	1	8	11		...		2	6	11		...	
Rata Dera ...	1	2	5	0	13	11		...		1	15	0
Nasirabad ...	1	15	0		...		2	0	0	1	2	10
Sujawal ...	0	12	3	0	9	3		...			...	
Shikarpur ...	1	10	4	1	2	9		...			...	

Besides this, in three taluqas the average rates are shewn as follows:

Taluqa.	Kharif.			Rabi.		
	Rs.	A.	P.	Rs.	As.	P.
Sayyidpur ...	1	9	4	3	0	6
Ghotki	1	12	6	3	3	8
Ubaura	1	3	0	2	5	0

The average rate per acre on all kinds of cultivation taken together appears as follows:

Taluqa.	Rs.	As.	P.	Tauqa.	Rs.	As.	P.
Sayyidpur ...	2	4	4	Ghotki ...	2	9	0
Kakar ...	1	9	3 to 1 4 9	Tigar ...	1	9	0
Mehar ...	1	9	7	Ubaura ...	2	1	2
Kambar ...	1	4	1	Larkhana ...	2	0	2
Labidarya ...	1	9	11	Rata Dera ...	1	1	3
Nasirabad ...	1	9	0	Sujawal ...	0	11	5
Shikarpur ...	1	0	8	Naushahra Abra	1	6	9
Sakkar (revised) ...	1	6	10	General average...	1	7	4

The last of the old settlements expires in 1884-85. The first of the revised settlements expires in 1886-87.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Sayyidpur Taluqa.—Total area, 106,637 acres. Government arable area:

Commissioner in Sindh's letter No. 2593, dated 16th November 1867, and connected documents.

	Acres.
Kharif	16,453
Rabi	14,385

		Maximum rates. Rs.	As.		Rs.	As.
Kharif ...	Wheel ...	2	0	to	1	14
	Flow ...	4	8	„	4	0
Rabi ...	Perennial wheel	5	8	„	5	0
	Sailab ...	6	0	„	5	8

The kharif lands are well watered and of superior quality, and also, where under flow irrigation, frequently capable of yielding a second rabi crop. The rabi lands are dependent on the *let* floods,

which also supply water for dâka cultivation; they have accordingly been assessed at high rates leviable on the cultivated fields only in a holding, but cultivation of any portion of a field renders the whole field liable to assessment.

Old assessment (average of seven years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
37,866	69,652	31,786	83

Average rates:

			Rs.	As.	P.
Kharif	...	...	1	9	4
Rabi	...	...	3	0	6
Total	...	...	2	4	4

The new assessments shewn above represent the survey *kamâl, i. e.*, the revenue demand from the entire culturable area, if it were all under cultivation.

The settlement was introduced in 1868-69. By 1873 the average annual realisations had risen to Rs. 51,813.

References as in Sayyidpur.

II.—Ghotki Taluqa (Tappas Dadli, Rukh, and Ghari). Government culturable acres:

Kharif	...	...	11,600
Rabi	...	...	13,987

These tappas were settled at the same rates and on the same principles.

Estimated financial results were—

Old assessment (average of seven years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
32,253	65,753	33,500	104

But here, again, the new assessments shewn are the survey kamâl.

Average rates are—

			Rs.	As.	P.
Kharif	...	...	1	12	6
Rabi	...	...	3	3	8
Total	...	...	2	9	0

In the same year the remainder of the Ghotki taluqa was settled, and the results for the whole, including the three tappas shewn above, stood as follows:

Old assessment.	New assessment (average up to 1873).	Difference.	Percentage.
Rs.	Rs.	Rs.	
99,609	1,27,945	28,336	28·45

The settlement runs for ten years from 1867-68.

III.—Kakar (six tappas).—Total area, 661 square miles. Government occupied area, 25,803 acres.

Commissioner in Sindh's No. 1085, dated 9th May 1867, and connected documents.

	Percentage on cultivated area.	Maximum rates. Rs. As.		Rs. As.
Flow	... 68 ...	3 8	to	2 8
Wheel	... 17 ...	1 8	„	0 12
Perennial wheel	... 8 ...	2 8		...
Sailab	... 7 ...	3 0		...

This taluqa is much exposed to floods, both from hill torrents and from the Narra and its canals. Cultivation is slovenly, and the people are poor.

Average rates:

		Rs.	As.	P.
Moke	Rice	1	15	3
	Other crops ...	1	6	3
	Charkhi	0	12	7
	Dâka	2	1	9
	Sailab	1	8	1
	Total	1	9	3

On introducing the settlement, the financial results proved to be—

Old assessment (average of ten years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
54,552	40,720	—13,832	25½

The year of settlement was one of floods.

Apparently the settlement runs for ten years from 1868-69.

IV.—24 villages of Kakar.—Government occupied area, 25,750 acres.

Commissioner in Sindh's No. 2568, dated 18th November 1868, and connected documents.

	Percentage on cultivated area.	Maximum rates. Rs. As.		Rs. As.
Flow	... 75 ...	2 8	to	2 0
Wheel	... 14 ...	1 4	„	1 0
Perennial wheel	... 7 ...	2 8	„	2 0
Sailab	... 4 ...	3 0	„	2 8

These are jungle villages, liable to floods. The results of the introduction of the new assessments were—

Old assessment (average of ten years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
29,320	33,484	4,164	14

Average rates:

		Rs.	As.	P.
Moke	... ...	1	5	8
Charkhi	... ...	0	14	0
Dâka	... ...	2	5	3
Sailab	... ...	1	0	6
Total	... ...	1	4	9

The settlement runs for nine years from 1869-70.

Commissioner in Sindh's letter No. 3099, dated 11th December 1869, and connected papers.

V.—Tigar Taluqa of Mehar.—Total area, 301 square miles (75 per cent. salt and unculturable). Government occupied area, 50,288 acres.

	Percentage on cultivated area.	Maximum rates. Rs. As.	Rs. As.
Flow	60 ...	3 0 to	2 0
Wheel	13 ...	1 8 ,,	1 0
Perennial wheel	11 ...	3 0 ,,	2 0
Sailab ...	15 ...	3 4 ,,	2 8

On the actual introduction of the new assessments, the results proved to be—

Old assessment (average of six years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
80,565	75,785	—4,780	6

The difference is accounted for by the exclusion of river alluvial lands (Rs. 2,000) and the relinquishment of the extra well assessments (Rs. 3,455).

Average rates:

	Rs. As. P.
Moke	1 7 10
Charkhi	1 4 1
Dâka	2 2 1
Sailab	1 12 11
Total	1 9 0

The settlement runs for ten years from 1869-70.

Commissioner in Sindh's No. 2409, dated 1st October 1869, and connected papers.

VI.—Mehar Taluqa.—Total area, 282 square miles. Government occupied acres, 65,931 (mostly under flow irrigation).

Maximum rates for moke were four annas higher than in Tigar. The results of the introduction of the new assessments were—

Old assessment (1867-68).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
91,405	1,05,336	13,931	15

giving an average rate of Rs. 1-9-7 per cultivated acre.

Apparently the settlement runs for ten years from 1869-70.

Commissioner in Sindh's Nos. 2504, dated 8rd September 1870, and 2347, dated 12th August 1871; with connected papers.

VII.—Ubaura Taluqa of Rohri.—Total area, 450 square miles.

	Acres.
Government culturable area ...	268,238
Do. occupied do. ...	51,398
(92 per cent. rabi.)	

	Maximum rates. Rs. As.	Rs. As.
Flow ...	... 3 8 to	1 8
Wheel ...	... 2 0 ,,	1 10
Perennial wheel	... 4 8 ,,	3 0
Sailab ...	... 4 8 ,,	3 0

This taluqa is flooded by the Indus, and wheat is grown when the water subsides. The kharif area alone is irrigated by canals. Revenue is collected only on the cultivated fields in holdings, owing to the uncertainty of the floods; but partial cultivation of a field renders the whole field liable to assessment.

Financial results, on actual introduction of the new assessments, proved to be—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
79,687	1,06,531	26,844	33·6

giving an average rate of Rs. 2-1-2 per cultivated acre, viz., Rs. 1-3-0 on kharif, and Rs. 2-5-0 per acre on rabi lands.

The settlement runs for ten years from 1871-72.

VIII.—Kambar Taluqa.—Total area, 480 square miles. Government occupied area, 1,76,100 acres, almost exclusively under flow irrigation.

Commissioner in Sindh's Nos. 405, dated 10th February 1870, and 2466, dated 23rd August 1871; with connected papers.

	Maximum rates.	
	Rs. As.	Rs. As.
Flow	4 0 to	1 6
Wheel	1 8	...
Perennial wheel ...	3 0	...

Financial results, on introduction of the settlement, proved to be—

Old assessment (average of five years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,78,370	2,21,034	32,664	17·33

The average revenue incidence is Rs. 1-4-1 per cultivated acre, viz.,—

	Rs.	As.	P.
Moke	2	0	1
Charkhi	1	5	8
Dâka	2	15	0

The settlement runs for ten years from 1870-71.

IX.—Larkhana Taluqa.—Total area, 281 square miles. Government occupied area, 1,21,041 acres.

Commissioner in Sindh's Nos. 3073, dated 8th December 1869, and 2273, dated 8th August 1871; with connected papers.

	Percentage on cultivated area.	Maximum rates.			
		Rs.	As.	Rs.	As.
Flow ...	82 ...	4	0 to	2	8
Wheel ...	9 ...	1	8 „	1	0
Perennial wheel	6 ...	4	0 „	2	8
Sailab ...	3 ...	4	0	...	

The financial results of the settlement, on actual introduction, were—

Old assessment (average of five years.)	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
2,27,529	2,43,614	16,085	7

Average rates:

			Rs.	As.	P.
Moke	...	...	2	1	2
Charkhi	...	...	1	2	9
Dâka	...	...	2	15	0
Sailab	...	...	2	1	11
Total		...	2	0	2

Apparently the settlement runs for ten years from 1870-71.

Commissioner in Sindh's Nos. 314, dated 1st February 1870, and 1235, dated 10th April 1873; with connected papers.

X.—Labidarya Taluqa of Larkhana (17 villages only).—Government occupied area, 21,363 acres.

	Percentage on cultivated area.	Maximum rates.			
		Rs.	As.	Rs.	As.
Flow ...	91	3	0 to	2	0
Perennial wheel	9	2	8	...	

Financial results, on introduction of the settlement, proved to be—

Old assessment (average of five years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
36,976	34,424	—2,552	7

Relinquishment of extra well assessments (Rs. 3,093) accounts for the difference.

Average rates:

			Rs.	As.	P.
Moke	...	...	1	8	11
Dâka	...	...	2	6	11
Total		...	1	9	11

The settlement was introduced in 1870-71, and apparently runs for ten years.

Commissioner in Sindh's No. 315, dated 16th February 1871, and connected papers.

XI.—Rata Dera Taluqa of Larkhana.—Total area, 228 square miles.

	Cultivated acres.	Maximum rates.			
		Rs.	As.	Rs.	As.
Flow ...	44,822	3	0 to	1	4
Wheel ...	28,796	1	4 ,,	0	8
Sailab ...	3,160	4	0 ,,	3	0
Total ...	76,778				

Old assessment (average of five years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
89,540	83,020	—6,430	7

Most of the loss is due to the relinquishment of the extra assessments on well lands (Rs. 4,157).

Average rates:

	Rs.	As.	P.
Flow	1	2	5
Wheel	0	13	11
Sailab	1	15	0
Total	1	1	3

The settlement runs for ten years from 1871-72.

XII.—Nasirabad Taluqa.—Total area, 343 square miles. Government occupied acres, 72,269.

Commissioner in Sindh's Nos. 292, dated 29th January 1870, and 2687, dated 9th September 1871; with connected papers.

	Percentage on cultivated area.	Maximum rates. Rs.	As.		Rs.	As.
Flow	98·57 ...	3	8	to	1	3
Perennial wheel	1·3 ...	3	8	„	·2	8
Flooded	0·13 ...	1	4		...	

On introducing the settlement, the results were—

Old assessment (average of six years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
1,10,814	1,23,352.	12,538	11

Average rates:

	Rs.	As.	P.
Moke	1	15	0
Dâka	2	0	0
Sailab	1	2	10
Total	1	9	0

The settlement apparently runs for ten years from 1870-71.

XIII.—Sujawal Taluqa.—Area, 192 square miles. Population, 51 per square mile. Government cultivation, 79,219 acres.

Commissioner in Sindh's Nos. 171, dated 27th January 1871, and 275, dated 26th January 1873; with connected papers.

	Percentage on cultivated area.	Maximum rates. Rs.	As.		Rs.	As.
Flow	87·5 ...	2	8	to	1	0
Wheel	12·5 ...	1	4	„	0	8

Upon the actual introduction of the settlement, the financial results were found to be—

Old assessment (average of ten years).	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
48,218	56,565	8,347	17

Average rates:

	Rs.	As.	P.
Moke	0	12	3
Charkhi	0	9	3
Total	0	11	5

The settlement runs for ten years from 1871-72.

XVII.—Sakkar Taluqa.—Total area, 284 square miles.

The first regular settlement in 1863 gave the following results:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
71,628	62,829	—8,799	12·3

This settlement has been revised in the manner subjoined.

		Cultivated.	Maximum rates. Rs. As.		Rs. As.
Flow	...	63,715	... 3 4	to	1 8
Lift { Kharif	...	2,359	... 1 8		...
Lift { Rabi	...	373	... 5 0	to	3 0
Floods	...	2,612	... 4 0	„	2 12
Total	...	69,059			

The price of wheat had risen 71 per cent. since the settlement of 1863, but the rise calculated on in framing the present assessments was 33 per cent. only. Financial results were—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
86,416	92,000	5,584	6¼

As originally proposed, the new rates involved a revenue increase of 18 per cent., but they were reduced in the lower classes of villages. The average rate now is Rs. 1-6-10 per cultivated acre. The assessments represent 11 per cent. of the estimated value of the gross produce of the taluqa.

The settlement runs for ten years from 1876-77 inclusive.

A statement of collections under the old and new settlements is subjoined.

Collections under original settlement.

Years.	Collections. Rs.
1862-63 ...	... 69,906
1863-64 ...	... 77,008
1864-65 ...	... 82,638
1865-66 ...	... 95,627
1866-67 ...	... 86,381
1867-68 ...	... 92,786
1868-69 ...	... 88,806
1869-70 ...	... 84,275
1870-71 ...	... 89,023
1871-72 ...	... 86,416
Average	... 85,287

Temporary settlement of four years (1872-73, 1873-74, 1874-75 and 1875-76). 85,367 average of four years.

Collections under revised settlement.

Year.	Collection. Rs.
1876-77 ...	... 86,367

The year was an unfavourable one, and it is believed that the 1878-79 collections have proved considerably in excess of this figure.

XV.—27 villages of Shikarpur Taluqa.— Cultivated area :

Commissioner in Sindh's No. 887, dated 14th March 1873, and connected papers.

	Acres.	Maximum rates. Rs. As.			Rs. As.
Flow	19,009 ...	3	8	to	2 12
Wheel	11,395 ...	1	8	„	1 4
Gardens	526 ...	4	0	„	3 10
Total	30,930				

These villages comprise that portion of the taluqa which is beyond the reach of floods. In the remainder of the taluqa cultivation is too uncertain to be brought under regular settlement, and an annual settlement is made.

Old assessment (average of five years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
36,531	46,469	9,938	27

Rs. 1,721 were lost by relinquishing the cess on wells.

Average rates :

	Rs. As. P.
Moke	1 10 4
Charkhi	1 2 9
Gardens	3 9 5
Total	1 0 8

The settlement runs for ten years from 1873-74.

XVI.—Naushahra Abra Taluqa (69 *villages*).—Government cultivated acres, 63,329. Maximum flow rates, Rs. 1-4 to Re. 1-0.

Commissioner in Sindh's No. 3567, dated 29th September 1874, and connected papers.

Financial results, on introducing the new assessments, proved to be—

Old assessment (1873-74).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
75,520	89,181	13,661	18

Of this increase, Rs. 7,231 are due to occupation of waste. The average rate per cultivated acre was Rs. 1-6-9. These villages are liable to floods. Assessments in that case are levied only on the unflooded portions of holdings, but the cultivation of any portion of a survey number renders the cultivator responsible for the assessment of the entire number.

Apparently the settlement runs for ten years from 1874-75.

Taken from the Mohbat Dera papers, Haidarabad.

XIV.—Mirpur Mathelo.—The settlement of this taluqa gave the following results:

Old assessment.	New assessment. (average up to 1873).	Difference.	Percentage.
Rs.	Rs.	Rs.	
77,040	1,05,688	28,648	37·18

It runs for 10 years from 1870-71.

References as above.

XVIII.—Rohri Taluqa.—This taluqa was originally settled in 1866-67, with results as below:

Old assessment.	New assessment (average up to 1873).	Difference.	Percentage.
Rs.	Rs.	Rs.	
51,263	58,623	7,360	13·6

The settlement was revised in 1877-78, when the revenue collections had considerably increased, and the new assessments raised the demand higher still, viz.,—

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
63,503	68,722	5,219	8·2

The settlement runs for ten years from 1877-78. A table of collections under the old and new settlements is subjoined.

Collections under original settlement.

Years.			Collections.
			Rs.
1866-67	...	...	70,011
1867-68	...	...	65,826
1868-69	...	...	58,487
1869-70	...	...	58,464
1870-71	...	...	63,504
1871-72	...	...	62,945
1872-73	...	...	63,269
1873-74	...	...	64,298
1874-75	...	...	64,486
1875-76	...	...	63,876
	Average	...	63,516
Temporary settlement pending revised settlement (1876-77)			67,348

Collections under revised settlement.

Year.	Collection.	Remarks.
	Rs.	
1877-78 ...	60,785	Unfavourable season.
1878-79 ...	67,072	Generally a very good season.

HAIDARABAD.

Area ... 9,053 *sq. miles.*
Population ... 721,947
Land revenue (1878-79) *Rs.* 14,15,567 (*including quit-rents, &c.*).

THERE are few special points of interest in the settlement of Haidarabad as distinguished from other Sindh districts. Cultivation is of a more stable and permanent character than in Karachi or Shikarpur, where large areas are affected by floods. On the other hand, the want of inundation renders rabi cultivation generally impossible, and as most of the kharif irrigation is by lift, assessments are comparatively light, except in those taluqas where rice is extensively grown, or in tracts where the kharif lands are capable of bearing a second rabi crop, under irrigation from pits. The area of such lands is small; they are analogous to the bhatta lands of Guzerat. Gardens have been generally assessed according to the number and quality of their fruit trees, after the old *sar-darakhti*, or tree-rate. In 1873 the cultivators were offered the option of redeeming the extra rate at ten years' purchase by instalments, but it does not appear how far this plan has been put in practice.

Five taluqas, Kandiaro, Naushahra, Mora, Shahdadpur, and Sakrand, which were settled between 1864 and 1870, have come under revision of settlement, but the revised settlements in all but Sakrand have been sanctioned for one year only. The old settlement disappointed expectation in Mora, giving an average revenue somewhat below the pre-settlement collections; while in Sakrand a considerable increase was obtained up to 1873, after which the collections seem to have fallen to the pre-settlement average. Revision in the four taluqas, on the whole, has given an increase over the average collections under the old settlement. Three taluqas have never been settled at all. In the rest of the district, the first regular settlements are still in force, expiring mostly between 1880 and 1885.

In exhibiting financial results, the caution recorded in the case of Shikarpur must be borne in mind as regards

Haidarabad also. The original settlements still current shew the following results :

Old assessment	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
2,98,378	3,65,758	67,380	22·6

And the results of the revised settlements again appear as follows :

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
4,68,002	5,27,549	59,547	12·7

Maximum and average rates are obtainable for the original settlements only. They are subjoined—

Maximum rates of original settlements.

Taluqa.	Lands watered by: Flow.	Wheel.	Perennial wheel.	Floods.
	R. As. R. As.	R. As. R. As.	R. As. R. As.	R. As. R. As.
Mirpur ...	1 12 to 0 12	1 0 to 0 8	.....	.....
Hâlâ ...	2 4 „ 1 0	1 4 „ 1 10	4 0 to 1 8	3 0 to 0 8
Haidarabad ...	2 12 „ 1 12	1 4 „ 0 14	.....	3 8 „ 2 0
Alayar-ka-Tanda ...	2 0 „ 1 4	1 2 „ 0 12	.....	3 0 „ 1 8
Muhbat Dera ...	4 8 „ 1 8	1 0 „ 0 8	.....	.....

Average rates of original settlements.

	Flow.	Wheel.	Perennial wheel.	Floods.	General average.
	R. As. P.	R. As. P.	R. As. P.	R. As. P.	R. As. P.
Mirpur ...	.....	.....	.....	.....	0 8 0
Hâlâ ...	0 8 8	0 11 4	3 7 2	1 0 3	0 11 9
Haidarabad ...	1 6 6	0 13 3	.....	1 7 9	0 14 7
Alayar-ka-Tanda ...	.....	.....	.....	.....	0 10 2
Muhbat Dera ...	2 5 11 to 0 13 6	0 7 3	.....	.....	0 8 4

Millet, rice, and oil-seeds are the principal crops of the district. There are no railroads.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

Bombay Selections, No. CV., 1867.

VI.—Mora Taluqa.—Total area, 709 square miles.

This taluqa was settled in 1867-68. The settlement was revised ten years later, when the financial results were the following :

Old assessment.	New assessment.	Difference.	Percentage.
Rs.	Rs.	Rs.	
59,377	76,535	17,178	29

But these figures are only estimates in anticipation of actual settlement. The rates have been experimentally sanctioned for one year.

Commissioner in Sindh's No. 2597, dated 11th November 1867, and connected papers.

VII.—Sakrand Taluqa.—Total area 1,389 square miles.

This taluqa was settled for ten years from 1868-69. On revision of settlement at

the end of the term, the financial results arrived at were the following:

Collections under original settlement.

Years.	Collections.
	Rs.
1868-69	83,685
1869-70	83,435
1870-71	83,872
1871-72	78,967
1872-73	78,416
1873-74	67,700
1874-75	70,890
1875-76	66,047
1876-77	63,068
1877-78	60,113
Average ...	74,278

Collections under revised settlement.

Year.	Collections.
	Rs.
1878-79	98,398

The season was an exceptionally good one. The settlement runs for ten years from 1878-79.

VIII.—Shahdadpur Taluqa.—Area, 724 square miles. This taluqa was settled for ten years from 1869-70. The collections since then are shewn in the subjoined table.

Commissioner in Sindh's No. 355, dated 15th February 1869, and connected papers.

Collections under original settlement.

Years.	Collections.
	Rs.
1869-70	92,763
1870-71	97,024
1871-72	92,483
1872-73	87,721
1873-74	89,225
1874-75	81,985
1875-76	89,831
1876-77	1,08,026
1877-78	1,07,198
1878-79	1,15,577
Average ...	96,183

The last season was exceptionally favourable. The taluqa has come under revision of settlement. The revised rates were introduced in 1879-80. Their result is as yet unknown, but is estimated as not less than Rs. 1,10,000 to Rs. 1,20,000.

I.—Mirpur Khas.—Total area, 562 square miles.

Commissioner in Sindh's No. 2849, dated 15th September 1869, and connected papers.

	Arable acres.	Maximum rates.				
		Rs.	As.		Rs.	As.
Wheel kharif lands	69,879 ...	1	0	to	0	8
Flow lands	480 ...	1	12	,,	0	12

The taluqa is a poor one, 30 miles from the Indus, with a scanty supply of water, no rabi cultivation, and a population of only 33 souls to the square mile.

Old assessment. (average of seven years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
34,130	35,763	1,633	5

The average rate slightly exceeds eight annas per acre. But the average yearly collections up to 1873 were Rs. 33,896 only. The settlement runs for ten years from 1870-71.

Commissioner in Sindh's No. 169, dated 27th January 1871, and connected papers.

II.—Hâlâ Taluqa. Total area, 532 square miles.

	Arable acres.	Maximum rates.	
		Rs. As.	Rs. As.
Wheel-lands ...	116,017	... 1 4 to	1 10
Flow do. ...	418	... 2 4 „	1 0
Perennial wheel ...	413	... 4 0 „	1 8
Flooded do. ...	3,987	... 3 0 „	0 8

There are also 363 acres of garden and well-lands.

This taluqa is watered chiefly from Government canals. It lies along the left bank of the Indus, has good roads, and six market towns.

Old assessment. (average of seven years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
70,962	89,077	17,151	24

Average rates :

	Rs.	As.	P.
Wheel	0	11	4
Flow	0	8	8
Perennial wheel ...	3	7	2
Floods	1	0	3
Gardens and well-lands ...	2	6	5
Total	0	11	9

The settlement runs for ten years from 1871-72. The average yearly collections up to 1873 were Rs. 90,183.

Commissioner in Sindh's No. 996, dated 30th March 1872, and connected papers.

III.—Haidarabad Taluqa.—Total area, 414 square miles. Government arable area, 118,519 acres.

	Cultivated areas.	Maximum rates.	
		Rs. As.	Rs. As.
Wheel-lands ...	75,843	... 1 4 to	0 14
Flow do. ...	4,740	... 2 12 „	1 12
Flooded do. ...	993	... 3 8 „	2 0

There are also 831 acres of garden and well-lands.

The average rates on the different kinds of cultivation are as follows :

		Rs.	As.	P.
Wheel	... ...	0	13	3
Flow	... ...	1	6	6
Floods	... ...	1	7	9
Garden	... ...	4	13	8
Total	... ...	0	14	7

Gardens were assessed at one to four rupees per acre, in addition to the valuation of the land, according to the number and quality of their fruit-bearing trees. This taluqa is exceptionally well watered, and has the advantage of a large market in Haidarabad. Hence the comparatively high average rates. On actually introducing the settlement, the financial results proved to be—

Old assessment. (average of seven years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
62,141	80,162	18,021	29

The settlement was regarded as a very light one. It runs for ten years from 1872-73.

Commissioner in Sindh's No. 3929, dated 28th December 1871, and connected papers.

IV.—Alayar-ka-Tanda Taluqa.—Total area, 705 square miles. Government cultivated area, 152,214 acres.

	Maximum rates.			
	Rs.	As.		Rs. As.
Wheel-lands ...	1	2	to	0 12
Flow do. ...	2	0	„	1 4
Flooded do. ...	3	0	„	1 8

Cultivation is nearly all kharif by wheel-lift.

Old assessment (average of seven years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
84,546	97,207	12,651	15

The average rate is 10 annas 2 pie per acre. On introducing the settlement the lands taken up gave a revenue demand of Rs. 1,06,745.

The settlement runs for ten years from 1872-73.

Commissioner in Sindh's Nos. 5111, dated 27th December 1872, and 1275, dated 9th April 1874; with connected papers.

V.—Mohbat Dera Taluqa.—Total area, 670 square miles. Population, 39 to the square mile.

	Cultivated acres.	Maximum rates.			
		Rs.	As.	Rs.	As.
Wheel ...	103,525 ...	1	0 to	0	8
Flow, rice ...	3,013 ...	4	8 „	3	8
Do., other crops	1,513 ...	2	0 „	1	8

There is also a very small area of garden and sailabi lands.

This taluqa is indifferently watered from a number of small canals. The new assessments were sanctioned for 10 years from 1874-75, with the following result:

Old assessment (average of seven years).	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
46,599	49,420	2,821	6

Average rates:

		Rs.	As.	P.
Wheel	...	0	7	3
Flow	Rice ...	2	5	11
	Other crops	0	13	6
Total	...	0	8	4

Notwithstanding this low general rate, lands assessed at Rs. 10,668 were thrown up by the zamindars. But subsequently a portion was resumed, raising the revenue demand to Rs. 53,772.

Taken from Mohbat Dera papers, and from the Administration Report of 1877-78.

IX.—Naushahra Taluqa.—This taluqa was originally settled in 1866-67, with results as follow:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,25,204	1,52,492	27,288	21·8

The new assessments here shewn are the average yearly realisations up to 1873. In 1877-78 the settlement was revised and sanctioned for one year, 1878-79, and the results are shewn below:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,36,930	1,42,450	5,520	4

References as above.

X.—Kandiaro Taluqa.—This taluqa was originally settled in 1864-65, with these results:

Old assessment.	New assessment. (average up to 1873).	Difference.	Per-centage.
Rs.	Rs.	Rs.	
91,697	1,07,698	16,001	17·45

The settlement was revised in 1877-78. By this time the average collections had decreased, and a slight reduction was made in the revenue demand, viz.,—

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,01,234	100,166	—1,068	1·05

The revised settlement has been sanctioned for one year, 1878-79.

XI.—Guni, Badin and Baga-ka-Tanda Taluqas.—Besides the above taluqas, there are also those of Guni, Badin, and Baga-ka-Tanda, which were ready for settlement on the old system in 1873. But the settlement was never introduced, pending the adoption of the new system; and additional survey operations being necessary, the taluqas remain unsettled to the present time.

KARACHI.

Area ... 14,091 *sq. miles.*
Population ... 423,495.
Land revenue (1878-79), *Rs.* 7,48,967
(including quit-rents, &c.).

THE settlements made in the Karachi district from 1862 to 1867 were actually brought into force in four taluqas only; and in these, though assisted by the high prices prevailing throughout their currency, they proved more or less a failure. Cultivation decreased by 16 per cent. in the taluqas noted on below, and revenue by nearly 30 per cent., during the ten years' term. The decrease of cultivation was to some extent nominal, resulting from the relinquishment of fallows, and was partly compensated by wider occupation of lands excluded from settlement and annually leased. But the system of relinquishing fallows, involving constant changes of occupied area, entailed much work upon the district officers, and tended to confuse the accounts. Similar consequences followed from the remissions which were such an important feature of the old settlements, rising to 15 or even 25 per cent. in some taluqas upon the average revenue demand of the last five years. They were not systematically managed, being sometimes withheld, and sometimes granted lavishly; and the consequences were peculiarly disastrous in the Sehwan taluqa, where the large area uuder fluctuating cultivation around the Manchar lake requires specially careful treatment (see note on that taluqa below).

In the taluqas of Kotri, Sehwan, and Dadu, revision has been completed, and the new rates have been introduced. The collections in the first year of the old settlements in these three taluqas amounted to Rs. 2,48,375. The collections in the first year of the revised settlements have amounted to only Rs. 1,63,643. Comparing the ten-years' average of the old settlements with the first year's collections of the new, the result appears as follows:

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
1,81,432	1,63,643	—17,789	9·8

Maximum and average rates are as follows:

Taluqa.	Flow.				MAXIMUM RATES ON LANDS WATERED BY: Wheel.				Floods.				Rain.			
	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.
Kotri ...	.....				1	2 to	0	12	3	0 to	2	8	1	4 to	0	8
Sehwan ...	3	6 to	2	10	5	4 „	1	10	2	12 „	1	12	.....			
Dadu ...	4	4 „	3	4	.....				2	10 „	2	2	.....			

The high maximum rate in Sehwan for wheel-watered land is really a 'perennial wheel' rate. Average rates all-round are—

	Per cultivated acre. Rs.	As.	P.
Kotri	1	1	5
Sehwan	2	7	4
Dadu	2	1	9
Total	2	2	1

There remains the Manjhand taluqa, where the revised assessments will come into force this year (1880-81). In the seven taluqas which compose the rest of the district, a regular settlement has yet to be made for the first time.

Rice is the principal crop of the district, and after that, millet and oilseeds; wheat and barley occupied 17 per cent. of the cultivated area of 1878-79. The railway along the right bank of the Indus runs through the district for 230 miles. There are 464 miles of canals.

ABSTRACT OF TALUQA SETTLEMENT REPORTS.

I.—Kotri Taluqa.—Total area, 531 square miles. Government cultivated area irrigated by—

	Acres.
Lift	6,229
Floods	1,304
Rainfall	1,583
Total ...	9,116
Add waste ...	3,831
	12,947

There were also 1,053 acres of alluvial land excluded from settlement, and disposed of by annual auction.

	Maximum rates. Rs.	As.	Rs.	As.
Wheel-watered lands ...	1	2 to	0	12
Flooded ditto ...	3	0 „	2	8
Rain-fed ditto ...	1	4 „	0	8

The rates on sailab land are levied only when the area is definite and occupancy rights determined; otherwise the land is put up to annual auction.

Three-fourths of the taluqa are an unirrigated and almost uninhabited plateau,

paying 12 annas an acre for kharif, and 8 annas an acre for rabi crops, and not brought under regular settlement. In the rest of the taluqa, irrigation is almost everywhere by lift, and only one canal gives a certain supply of water. Rain-fed lands, however, are exceptionally good, as the gentle slope of the country allows the hill torrents to spread themselves over the fields.

The following table shews the collections under the old settlement, and in the first year of the new settlement :

Collections under original settlement.

Years.			Collections. Rs.
1863-64	...	...	9,913
1864-65	...	...	8,373
1865-66	...	...	8,040
1866-67	...	...	8,742
1867-68	...	...	8,602
1868-69	...	...	7,354
1869-70	...	...	7,681
1870-71	...	...	8,033
1871-72	...	...	7,265
	Average	...	8,221

Collections under revised settlement.

Year.			Collection. Rs.
1876-77	...	...	9,214

Average rates under the new settlement were estimated to be as follows :

			Rs.	As.	P.
Wheel	...	...	0	15	1
Floods	...	...	1	13	2
Rain	...	...	1	0	9
	Total	...	1	1	5

The settlement runs for 10 years from 1876-77.

Bombay Resolution No. 747, dated 12th February 1879, Revenue Department, and connected papers.

II.—Sehwan Taluqa.—Total area, 925 square miles. Area settled, 266

square miles. Government culturable area :

		Maximum rates.					
	Acres.	Rs.	As.		Rs.	As.
Flow irrigation ...	5,238	... 3	6	to	2	10
Kharif wheel ...	39,418	... 2	2	„	1	10
Rabi do. ...	578	... 5	4	„	3	8
Sailab ...	27,185	... 2	12	„	1	12
Unbricked wells ...	359	...			...	
Total ...	72,778					

The old settlement was a signal failure in this taluqa. A large portion of the cultivated area consists of wheat-growing lands, surrounding the Manchar lake, an extensive natural basin which is filled by floods in August, and partly drains off by the beginning of October, when wheat and barley are sown in the lands left dry. As both floods and drainage are highly uncertain, the task of introducing a satisfactory settlement is one of great difficulty. All that can be done is to reduce remissions to a minimum, by dividing survey numbers into areas capable, under ordinary circumstances, of cultivation as a whole during each season. The minimum area of such fields is two acres, and the cultivation of any portion of a field renders the cultivator liable for the assessment of the whole field, unless there are special reasons to the contrary.

The taluqa is chiefly held by large zamindars. In a favourable year half the cultivated area is under wheat. Irrigation is from the Manchar lake and from a series of natural canals connecting it with the Indus ; these latter are maintained by the Government. The financial results were estimated to be a revenue of Rs. 89,665, against Rs. 72,239 of 1873-74. The average rate was estimated at Rs. 2-4-1 per cultivated acre. But the year of introduction of the new settlement happened to be one of untimely floods, the cultivated area fell from 45,796 to 28,891 acres, and the financial results were—

Old assessment (1876-77).	New assessment (1877-78).	Difference.	Per-centage.
Rs.	Rs.	Rs.	
87,765	71,113	—16,652	19

giving an average rate of Rs. 2-7-4 per acre of actual cultivation, against the former average of Re. 1-12-6 per acre (Rs. 2-7-7, including remissions). On the estimated value of gross produce, the revenue incidence is 12·4 per cent. The

subjoined table shews how the revenue decreased under the old settlement, and failed to recover itself at once under the new.

Collections under original settlement.

Years.			Collections.
			Rs.
1864-65	...	...	1,53,714
1865-66	...	...	1,16,931
1866-67	...	...	1,11,554
1867-68	...	...	1,08,160
1868-69	...	...	1,00,622
1869-70	...	...	85,313
1870-71	...	...	97,849
1871-72	...	...	79,961
1872-73	...	...	71,388
1873-74	...	...	72,239
	Average	...	99,773
Temporary settlement (1874-75, 1876-77) collections for last year (1876-77) only given		...	87,765

Collections under revised settlement.

Year.			Collection.
			Rs.
1877-78	...	...	71,113

The year was an unfavourable one, and the 1878-79 collections are believed to have considerably exceeded this figure.

The settlement was introduced in 1877-78, and lasts ten years.

Bombay Resolution No. 748, dated 12th February 1879, Revenue Department, and connected papers.

III.—Dadu Taluqa.—Total area, 747 square miles. Area brought under settlement, 296 square miles. Government culturable acres, 67,575.

	Maximum rates.			
	Rs.	As.		Rs. As.
Kharif irrigated lands ...	4	4	to	3 4
Rabi flooded do. ...	2	10	,,	2 2

The original settlement, made in 1867-68, worked well enough for the first four years, while fallow lands were not resigned, and the revenue was not reduced by large remissions. After that, the revenue began to decrease, partly from the causes just mentioned, and partly by reason of the competition of 'kâcho' lands not brought under regular settlement, but leased out annually according to the extent of cultivation rendered possible by floods. These lands used to be leased at considerably lower rates than those applied to similar lands in the adjoining taluqa of Sehwan, but under present orders the rates will be raised to the Sehwan level in 1882.

The new revenue incidence in the settled portion of the taluqa is Rs. 2-1-9 per acre of actual cultivation. The new assessments were introduced in 1878-79. The subjoined table shews how their results compare with the collections under the old settlement.

Collections under original settlement.

Years.			Collections.
			Rs.
1867-68	...	...	84,748
1868-69	...	...	85,810
1869-70	...	...	86,279
1870-71	...	...	89,449
1871-72	...	...	75,396
1872-73	...	...	69,543
1873-74	...	...	68,047
1874-75	...	...	41,437
1875-76	...	...	78,842
1876-77	...	...	54,827
	Average	...	73,438

Collections under revised rates.

Year.	Collection.	Remarks.
	Rs.	
1878-79 ...	83,316	A very good season.

IV.—Manjhand Taluqa.—There is also the Manjhand taluqa, which was settled in 1863-64, and into which revised rates are about to be introduced with effect from the current year (1880-81).

The remainder of the Karachi district has yet to be brought under regular settlement for the first time.

MYSORE.

Area ... 29,633 *sq. miles.*
Population ... 5,055,412.

Ryotwari land revenue (1877-78), *Rs.* 66,62,179.

Administration Report of 1872-73, page 38.

THE Mysore revenue survey and settlement may be regarded as a branch of the Bombay revenue survey, with which it corresponds in all important particulars. It began work in November 1864, under the direction of the Superintendent of Survey and Settlement in the Southern Mahratta country; and it has been conducted under the same supervision until the present time.

Mysore Commissioner's letter No. 3133 General—130 Revenue, 19th November 1864.

The revenue system prevailing in Mysore before settlement was one of rough annual settlements with the ryots, effected by the native taluq officials. "The Shekh-
"dar, who is a kind of minor tahsildar, and
"of whom there are five or six to a taluqa,
"went over his range every season, in-
"spected the cultivation, and reported all
"details to the Amildar, who, setting out in
"November or thereabout, culculated the
"assessment of each sub-division of his
"taluqa in turn. The Superintendent
"followed, and the puttahs issued yearly
"were distributed in his presence. As a
"general rule the Amildar's estimate
"was accepted, and the puttahs made out
"accordingly, but if it was unduly high,
"or if any particular dissatisfaction was
"shewn by the ryots, the Superintendents,
"after inquiry, made such reductions as
"they thought fit. It is obvious that
"under this system, though any crying
"grievance was redressed, and the action
"of the Superintendent was generally
"on the side of leniency, it was impos-
"sible for him to make himself acquainted
"with the actual circumstances of every in-
"dividual ryot, or to do more than inter-
"pose his authority to prevent gross in-
"justice. The consequence has been that
"in a long course of years the astuter and
"more influential ryots have obtained
"possession of the better lands of a village,
"while paying a lower rent than the poorer
"classes pay for inferior descriptions of soil.
"The number of rates of assessment is cap-
"ricious and almost endless (they were 596
"on dry lands in the Bangalore division),
"but the effect of the power which has been
"thrown into the hands of the Shanbogs or
"village accountants has been to lower the

"rates on their own and their friends' lands, "while maintaining those on the lands of "less favoured people. The general average "would be found to be low probably, a "portion of the ryots paying their fair "quota, while the more influential ryots "pay absurdly low rates, besides holding "large portions of concealed cultivation not "brought to book in the accounts.. The "Government has therefore been largely "defrauded. A survey is more needed to "protect the interests of the Government "than to shew consideration for the ryots, "who are, as a class, particularly well off, "though in the north they are envious of "the superior weath and independence of "the people of Dharwar."

In the absence of taluqa settlement reports, and of detailed accounts of the new settlements in the annual revenue reports of the province, a very general estimate is all that can be formed of the financial results of the Mysore survey and settlement. Up to the end of 1872-73, these had proved to be as follows :

Administration Report of 1872-73, pages 52, 53.
Ditto of 1873-74, page 9.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
12,09,744	13,08,507	98,763	8·16	13,13,613

Subsequent results have to be calculated from the annual revenue enhancements due to the introduction of new settlements. These are shewn below :

Administration Reports of 1873-74 to 1878-79, chapters on revenue and settlement.

Year.	Expenditure.	Revenue increase.
	Rs.	Rs.
1873-74 ...	2,65,322	4,257
1874-75 ...	2,65,543	5,919
1875-76 ...	2,87,897	64,841
1876-77 ...	2,91,113	24,256
1877-78 ...	2,66,233	38,865
1878-79 ...	2,56,095	31,866
TOTAL ...	16,32,203	1,70,004

The settlements actually introduced up to the end of 1878-79 involved a total revenue of Rs. 27,89,208. Deducting from this the settlements introduced up to the end of 1872-73, as shewn above, there remain Rs. 14,80,701, and the financial results from 1872-73 up to date appear as follows :

Administration Report of 1878-79, Statement I. E. Fiscal 1 and 2; and para. 312.

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
13,70,697	14,80,701	1,70,004	12·4	16,32,203

The general result of the Mysore survey and settlement, from its institution in 1863

to the present time, would thus seem to be somewhat as is shewn below:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
25,80,441	27,89,208	2,68,767	10·4	29,45,816

The cost however includes—(1) expenses incurred in measuring fields not yet classified; (2) expenses incurred in classifying fields not yet assessed; and (3) the expense of making assessments not yet introduced.

Administration Report of 1878-79, Statement E. Fiscal, 1 and 2.

The assessments made in 1878-79, but not coming into effect till 1879-80, amounted to Rs. 5,70,673. Thus the Mysore survey and settlement, as it stands now, has secured a revenue of Rs. 33,59,881, by operations extending over fourteen years, at a cost of Rs. 29,45,816; the annual revenue increase is about 10½ per cent. on the old assessments, and is equal (supposing the new assessments of 1879-80 to bear the same average proportion to the old) to 11 per cent. on the cost, so that the settlement would re-pay its expenses in about ten years. The expenses are equivalent to no less than 87·7 per cent. on the revenue secured.

Administration Report of 1878-79, para. 8.

Out of 69 taluqas in the Province, 30½ taluqas had been settled up to the end of 1878-79. Four more were ready for settlement. Three more were under classification, and ten taluqas were under measurement, leaving 21½ taluqas still untouched. It was estimated that the settlement could be finished in about 21 years. But there still remain 34 lakhs of ryotwari assessments to revise, against* 32 lakhs already revised. At this rate, the work will not be finished for another fourteen years.

* Including assessments of taluqas where the new rates have been deferred till 1879-80.

Administration Report of 1865-66, pages 69, 70.

Maximum rates are given for two taluqas only, as below:

Taluqa.	Dry crops.		Wet crops.		Gardens.	
	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.
Harihar	... 2 0	...	...	...	4 0	...
Devangiri	... 1 12	to 1 4	6 0	to 5 0	8 0	...

These were the first two taluqs to come under settlement. Their settlement expires in 1894-95.

Administration Report of 1878-79.

The present incidence of the revenue demand per cultivated and arable acre

in the new-settled districts is shewn below. The latter rate represents the average assessment fixed on settlement waste, to be paid in the event of occupation :

District.	Revenue incidence per Cultivated acre. Rs. As. P.	Arable acre. As. P.
Chitaldrug ...	0 10 6	6 0
Shimoga ...	1 11 7	14 2
Tumkur ...	1 6 8	6 6
Bangalore ...	1 10 2	9 4
Kolar ...	2 2 5	14 9
Hassan ...	1 12 10	12 4
Kadur ...	1 3 6	10 1

There are no statistics of the extension of cultivation. The earliest figures of occupied area relate to the year 1873-74, and as the famine began in 1876-77, and has left its traces upon the cultivation of the past year (1878-79), any comparison of the figures of the last five years would only be misleading. But the gross land revenue of the province has increased from Rs. 57,34,787 in 1855-56 to Rs. 73,78,225 in 1875-76 ; that is, nearly 30 per cent. in twenty years ; and this could not have happened without a large increase of cultivated area.

There are no consecutive statistics of land revenue collections and balances. The Administration Reports (except for the year 1875-76) shew only the collections and balances of all kinds of revenue together—land revenue, forest revenue, excise, customs, stamps, &c., &c. The percentage of the year's demand remaining uncollected is shewn as follows :

Date.	Percentage.
30th June 1873 ...	... 1·60
Ditto 1874 ...	... 2·24
Ditto 1875 ...	... 1·80
Ditto 1876 ...	... 2·36

In 1875-76, the balance on account of land revenue alone constituted 85·6 per cent. of the whole balance of the year. The season was an unfavourable one. Assuming that in other years the ratio was 50 per cent. only, *i. e.*, that one-half of the year's balances was due to land revenue, the percentage of land-revenue demand remaining uncollected at the close of the revenue year can be calculated as subjoined. The figures for 1875-76 are of course actual, not hypothetical. Remissions are not included in balances.

The demand includes quit-rents, revenue from permanently-leased estates, &c.

Year.	Total land revenue demand.	Percentage of balances.	Remissions.
	Rs.		Rs.
1872-73 ...	72,09,453	1·42	3,091
1873-74 ...	71,77,284	1·93	2,875
1874-75 ...	73,51,268	1·49	8,862
1875-76 ...	73,78,225	3·00	5,406

It is to be observed that these balances include all outstanding arrears, the practice being to shew balances due from previous years as part of the current year's demand. On the other hand, it is certain that 50 per cent. is too low a figure for the ratio of land revenue balance to the total annual balances. For land revenue constitutes three-fourths of the total revenue of the province, and it is impossible that the percentage of its uncollected balance should be less than the percentage of the uncollected balance on all revenue taken together.

The only information given regarding coercive processes relates to the sums annually realized by distraint and sale of personal property. These are shewn below :

Year.	Rs.
1871-72	6,005
1872-73	9,791
1873-74	10,262
1874-75	12,941
1875-76	19,317

HAIDARABAD ASSIGNED DISTRICTS.

Area ... 17,711 *sq. miles.*
Population ... 2,227,654.

Administration Report of 1878-79, Appendices, page 2.

THE Haidarabad Assigned Districts consist of the valley between the Satpura range to the north and the Ajanta hills to the south. They are naturally divided into the northern or lowland portion, and the southern plateau of the Ajanta range. The champaign tracts consist mostly of black soil; in other parts of the province there is a greater or less proportion of shallow light soil overlying rock. According to the returns for 1878-79, about one-third of the cultivated area is under cotton, one-third under jowar, and one-tenth under wheat. The forest tract of Melghat was excluded from settlement.

Reports of survey settlement proceedings for 1875-76 and 1876-77.

Administration Report of 1878-79.

The survey began in March 1861 as a branch of the southern Mahratta survey, but was erected into a separate department in the beginning of 1863-64. The settlement was completed by the 31st October 1876, and the department ceased to exist on the 18th November 1878, after having lasted 17 years and 8 months. The system of survey and settlement was essentially the same as that of Bombay, and the work was under the official superintendence of the Survey Commissioner of the southern Mahratta districts till the middle of 1871.

Foreign Dept. Revenue Proceedings—
A. October 1866, Nos. 13 to 21.
A. September 1866, Nos. 8 to 15.
A. April 1868, Nos. 75 to 77.
B. June 1874, No. 5.
B. June 1872, No. 29.
A. April 1875, Nos. 4 to 11, and connected papers.

Settlement statistics are forthcoming for only a certain number of taluqas. They will serve as examples. The *Jalgaum* and *Akot* taluqas are among the best in the province, being level tracts of very productive black soil; *Umraoti* and *Morsi* are somewhat less favoured in extent and fertility of champaign country; *Murtizapur* and *Chandur* have an undulating surface and light soil; while *Chikli*, *Bassim*, *Darwa*, and *Pusad* are more or less hill taluqas. The results of settlement for these taluqas were as follow:

		Old assessment.	New assessment.	Difference.	Percentage.	New average rate per cultivated acre.
		Rs.	Rs.	Rs.		Rs. As. P.
Jalgaum (1865-66)	...	1,38,050	1,68,083	30,033	21	1 9 3
Akot (1867-68)	...	5,22,567	6,22,657	1,00,090	19	1 10 0
1868-73. Umraoti	...	2,95,140	4,44,465	1,49,325	50	1 5 5
1868-73. Morsi	...	3,29,653	4,05,869	76,216	23	1 4 7
1868-73. Murtizapur	...	1,88,601	3,05,843	1,17,239	60	0 15 8
1868-73. Chandur	...	2,51,359	3,61,024	1,09,665	40	0 13 11
Chikli (1865-66)	...	2,92,231 54,783	3,10,916 70,145	8,685 15,362	2·9 28	0 12 0 0 11 0
Bassim (1870-71)	...	2,37,924	3,33,643	95,419	40	0 9 5
Darwa (1871-72)	...	1,32,003	1,89,701	57,698	44	0 9 9
Pusad (1871-72)	...	1,24,815	1,68,471	43,856	34	0 9 1

The maximum dry-crop rates used in these taluqas were—

	Rs. As.	Rs. As.		Rs. As.	Rs. As.
Jalgaum	... 2 4	to 1 8	Chandur	... 2 0	to 1 3
Akot	... 2 4	„ 1 12	Chikli	... 1 12	„ 1 0
Umraoti	... 2 8	„ 1 8	Darwa	... 1 8	„ 0 14
Morsi	... 2 4	„ 1 8	Pusad	... 1 4	„ 0 12
Muritzapur	... 2 0	„ 1 4			

The record of rights forms a noticeable feature of the settlement. In the year 1863-64, the want of "an authoritative "record of rights, similar to that framed "in the Punjab, the Central Provinces, and "Oudh," was perceived by the then Resident, who accordingly prescribed that such a record should be undertaken by the district tahsildars *pari passu* with the survey, so far as might be practicable. But the tahsildars were found unequal to this work, in addition to their regular duties; and in 1868 it was decided that the duty of *recording possession* should devolve upon the Survey Department, that they should dispose of such disputes as admitted of summary disposal, referring all others to the Deputy Commissioner of the district in his revenue capacity, and that the record so prepared should be judicially conclusive on all points connected with possession of land, subject only to appeal or revision by the Deputy Commissioner within one year. This term was extended in 1877 to the period allowed by the Limitation Act. The decision of the Deputy Commissioner is final and judicially binding. Interests accruing subsequently to settlement are left for the decision of the civil courts. The record of rights has been made on these principles in all the districts of the province, but opinions differ a good deal as to its value.

Foreign Dept. Revenue Proceedings, May 1868, Nos. 27 & 28; and connected papers.

The rules regarding co-sharers and sub-tenants are another distinctive feature. Both these classes of occupants are recorded. It had been found, at the beginning of settlement, that in not a few cases the omission to record all the names had enabled the one recorded proprietor to override numerous rights co-equal with his own. One person is named in the record as the principal, who deals with the Government on behalf of all the recorded sharers. A co-sharer can be ousted only by decree of court. If ousted otherwise by a co-sharer, the tahsildar, on complaint made within ten months, can summarily reinstate him at the expense of the person who ousted him, and can take security from the latter not to do so again, pending decision of the case by the civil court. Sub-tenants who have held at cash rents

Foreign Dept. Revenue Proceedings, December 1866, Nos. 20 and 21.

for 12 years uninterruptedly before settlement cannot be ousted except by decree of court; but no such occupancy right can be acquired by continuous possession since settlement. Jagirdars' tenants who obtained their lands before the grant of the jagir are entitled to all the privileges of the settlement as enjoyed by Government ryots in khalsa villages.

For the whole province, the financial results of settlement have been as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
51,08,750	66,20,753	15,12,003	29·6	21,90,946

Revenue Report of 1878-79, Appendices, page 3.

This, however, includes assignments. The realisable revenue demand for 1878-79 was only Rs. 62,78,510. The average incidence per occupied acre appears to be 15 annas and 10 pie. It will be observed that the financial results of the settlement are peculiarly favourable. The expenses are only 33 per cent. upon the revenue secured, and can repay themselves in a year and a half, as the annual increase of revenue represents a return of 69 per cent. upon outlay. But the large apparent enhancement is mostly due to the bringing on record of concealed cultivation. From the subjoined table, some idea may be gathered of the great inaccuracy of the revenue records.

Taluqa.		Occupied area. By revenue records. Acres.	Occupied area. By survey. Acres.
Akot	...	279,756	365,252
Chikli	...	209,205	327,292
Jalgaum	...	164,534	197,056
Pusad	...	155,231	295,521
Darwa	...	143,190	311,944
Whole Umraoti district	...	911,926	1,375,859

This makes a difference of 54 per cent. in favour of the survey area in these taluqas.

Progressive assessments were sanctioned where the enhancement was very great (it occasionally ranged as high as 250 per cent. in individual villages); but it was found necessary to resort to them in one taluqa only (Pusad).

The Revenue Report of 1878-79 (page 29) contains some remarks upon the statistics obtained by enquiries (they were very limited in number) which had been instituted with a view to ascertaining the rental value of land. It is observed that the statistics collected "tend to shew how

"great a difference exists between the value "of land in the plain region of Berar and "in the southern uplands. Judging from "the 165 fields tested in Bassim, the Gov- "ernment demand equals 79 per cent. of "the rack-rent,—a very high rate indeed; "while in the Elichpur and Daryapur "tahsils it is under 50 per cent. and 41 per "cent. respectively."

The revenue is collected with much ease. At the end of 1878-79, which was anything but a good year, only Rs. 4,338 remained uncollected out of a demand of 62¾ lakhs, and the outstanding balances of former years were only Rs. 261, but this was after remission of Rs. 24,885. These results were achieved "with only that amount of coercion which is involved in (1) issuing 385 orders to pay; (2) sending for 150 persons to tahsils; (3) selling personal property in six cases; and (4) selling 11 valueless fields."

Review of Revenue Report, paras. 2, 14.

Appendices to Report, page 17.

In 1878-79, the proportion of the culturable area which was actually occupied was 86 per cent. Only 0·72 of this was irrigated, all but 785 acres from wells.

The first settlements having been introduced in 1802, it would seem that revision will not begin anywhere in the province before 1892-93. Similarly, the last-made settlements, introduced in 1876, will expire in 1906-7.

THE TEMPORARY SETTLEMENTS OF ASSAM AND BENGAL.

ASSAM.*

Administration Report of 1874-75, paras. 213—216.

I. Assam Proper.—The settlement of Assam Proper is strictly ryotwar. Besides the ordinary ryotwari tenure, it differs from the typical ryotwari settlement in this, that the ordinary ryot pays his revenue through a local Collector called a mauzadar, who receives a percentage on the collections. But there are certain large ryotwari holdings called *chamuas* or *khiraj khats*, which carry with them the privilege of paying revenue direct into the Government treasury, without the intervention of the mauzadar. There are also nisf-khiraj tenures and lakhiraj tenures, *i. e.*, holdings either assessed at half rates, or revenue-free altogether. They owe their origin to religious grants made by former rulers. All these varieties of tenure are essentially ryotwari, each cultivator, by whatever title designated, being annually assessed by the officers of Government for the land actually occupied by him.

Taken from the Administration Report of 1874-75, paras. 240—244.

Settlements in Assam Proper are made in accordance with rules framed in 1870. The estate, whether ryoti, nisf-khiraj, or chamua, is first measured. The measurement in the case of khiraj estates is conducted by, and at the expenses of, the mauzadar, and, in the case of nisf-khiraj estates and chamuas, by the holders themselves. The mauzadar is assisted by the *mandal*, or village headman, of whom there is one to every village or collection of 200 houses. The mandal is elected by the villagers, and is a paid servant of the Government.

The measurements are made with a thirty-foot chain, and the unit of area is the standard Bengal bigha of 14,400 square feet. Lands measured once in the course of previous assessments are not generally measured again; only the external lots of fields are subjected to measurement, in order to ascertain if they have undergone any alteration since the last assessment. All new cultivation is of course measured. When lands are relinquished in any field, only the lots resigned are measured, and their area is then deducted from the total area of the field, as ascertained at the previous measurement. The results of these measurements are recorded in a register prescribed for the purpose.

* The notes on Assam have been compiled from the Revenue and Administration Reports, and from the correspondence ending with the Resolution of the Government of Bengal, Revenue Department, dated the 17th July 1872.

Whenever possible, the measurements are tested by the Deputy Commissioner or by the sub-divisional officer. A few plots are chosen at random and measured, when a tolerably correct opinion of the general character of the work done by the mauzadars can be formed. In the Revenue Report for 1877-78, however, it is stated that "the Chief Commissioner is unable "to express any decided belief in the gene-"ral accuracy of the mauzadars' measure-"ments, and he is quite convinced that the "machinery for testing them is neither "efficient nor adequate". After the measurements have been completed, the mauzadars and the holders of the nisf-khiraj estates and chamuas file the measurement papers in the Deputy Commissioner's office, where they are examined as to their correctness. Then comes the assessment. There are three classes of lands in Assam Proper, and they are assessed at three uniform rates as shewn below, the nisf-khiraj estates being assessed at half these rates :

	Per bigha.	Per acre.
	Rs. A.	Rs. A.
(1) Basti, or homestead and garden lands	1 0	3 0
(2) Rupit, or low paddy land ...	0 10	1 14
(3) Faringhati, or high-lying lands ...	0 8	1 8

When the assessments are finished, a settlement statement of each mauza, nisf-khiraj estate, or chamua is prepared in the Deputy Commissioner's office, and submitted to the Chief Commissioner for confirmation. Each ryot or occupier of the land receives a lease of his holding, and executes a counterpart in exchange, binding himself for the payment of the Government revenue. The leases are issued under the signature of the Deputy Commissioner or sub-divisional officer.

In each year a supplementary assessment is made of new land taken up for the cold weather crops, after the conclusion of the first regular assessment of the year. In this assessment all lands found under cultivation since the orginal settlement are measured and assessed according to classification, and a settlement statement is transmitted for the Chief Commissioner's confirmation. Lands assessed at the supplementary assessment of one year are included in the original settlement of the following year.

Land in Assam has little value as property. The assessments are less a land-rent than a tax paid for the right of cultivating. The rates of assessment have developed themselves by custom and experiment. The settlement rules declare them liable to re-adjustment at any time in the

case of 'fluctuating cultivation', or at the expiry of the settlement in the case of 'settled assessments', under the orders of the Commissioner, with the sanction of the Government. 'Fluctuating cultivation' includes all high paddy land and all lands growing dry crops (mustard seed, pulses, &c.) These lands are continually undergoing changes, and are rarely held for more than three years continuously. 'Settled assessments' are leases of rupit or garden land for ten years. But these leases are not popular. The ryots decline to enter into long engagements, and only some 16,000 acres are so held by ryots at present. As the main point of the lease appears to be that it guarantees the occupant against any enhancement of rates during the period of its currency, it would seem to follow that, apart from leases, the rates on rupit and garden lands may be raised at any time.

The original settlements were made at much lower rates, so far as they can be ascertained. The statistics for the several districts seem to be as follows:

District.	Year of settlement.	Rate per Government bigha.	
		Rupit lands.	Other lands.
		As. P.	As. P.
Kamrup ...	1849-50	5 8½	4 7
Sibsagar ...	1839-40	4 7	2 3½
Ditto ...	1843-44	5 8½	3 5
Ditto ...	1849-50	5 8½	4 0
Lakhimpur ...	1839-40	4 7	3 5
Darrang and Nowgong ...	Not stated	5 8½	4 0

The increase of cultivation and revenue under this system is shewn as follows for the last five years:

Year.	Number of estates.	Area in acres.	Assessment.	Average rate per acre.
			Rs.	Rs. As. P.
1874-75 ...	398,578	1,251,033	21,93,203	1 12 0
1875-76 ...	386,013	1,257,277	22,10,988	1 12 2
1876-77 ...	420,022	1,315,377	22,74,364	1 11 8
1877-78 ...	431,102	1,347,721	23,46,452	1 11 11
1878-79 ...	429,084	1,375,348	23,93,751	1 11 10

Thus the area of cultivation has increased by 124,315 acres, or nearly 10 per cent., and the revenue by Rs. 2,00,548, or more than 9 per cent., in the last five years. The present proportions of the different kinds of land are as follows:

	Percentage on total area of cultivation.
Dry crop	42·24
Rice	50·12
Garden	7·64

As already stated, the revenue is collected by officers called mauzadars, each of

whom resides in his own mauza or circle, and manages the collection of from 5,000 to 10,000 rupees of revenue, as the case may be. The mauzadar receives a commission (usually 10 per cent., but raised to 15 per cent. in special cases) on his collections, and this is the only expense incurred in realizing the Government demand; for if the mauzadar is himself remiss in sending in the revenue collected by him, it is recovered from him by the deputation of a peon, whose expenses he has to pay. Under this system, it is said, "the revenue is most punctually "and satisfactorily gathered in". Demand and balances for the last four years have been as follows. The demand includes both current demand and arrears of past years, and the balances are the total balances outstanding at the end of each year:

Year.	Demand.	Remissions.	Percentage on demand.	Balances.	Percentage on demand.	Total percentage.
	Rs.	Rs.		Rs.		
1874-75	25,43,052	588	...	70,875	2·81	2·81
1875-76	23,54,828	95	...	24,927	1·06	1·06
1876-77	24,00,740	3,617	0·15	14,191	0·59	0·74
1877-78	24,94,675	5,064	0·20	4,442	0·18	0·38

The improvement in collections has thus been continuous ever since Assam was made a separate province. If the revenue due from a ryot in Assam Proper is not paid in on the latest day of payment, the mauzadar puts in a *bakijai*, or statement shewing the name of the ryot, the arrear due, and the land on which it is due. He also files the counter part of the ryot's lease. Upon this the Deputy Commissioner issues an order to realize the arrear, or, failing this, to attach the defaulter's movable property. Sale follows fifteen days after attachment, if the arrear remains unpaid. The extent to which this process has been put in force during the last three years is shown below:

	Number of		
Year.	Bakijai statements.	Attachments.	Sales.
1875-76	888	263	87
1876-77	746	208	82
1877-78	717	115	17

II. Sylhet.—(a) Ilam lands.—A large part of Sylhet is permanently settled. Ilam lands may be roughly defined as surplus waste lands excluded from permanent settlement. In 1869 they were ordered to be settled on 20 years' leases, with an option, in the case of estates assessed at not more than one rupee, of

redeeming the revenue at 20 years' purchase. Settlement operations began in 1872.

Taken from the Revenue Report of 1874-75, page 57.

The land is regularly re-measured and re-assessed, with reference to the rent which is paid by cultivators for lands of the same class in Sylhet, and from this the usual deduction of 15 per cent. is made for expenses and risk of collection, and for the profits of the settlement-holder, and the remainder is the revenue payable to the Government. Besides the option of redemption, the revenue can be fixed in perpetuity on the payment of a bonus equal to five years' revenue. The settlement is, as a rule, made with the previous settlement-holder or occupant. The proportion of waste to cultivated land in each holding may not be more than as one to five. The result of settlement operations up to the 31st March 1879 has been as follows :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
15,974	75,920	59,946	351	66,865

Most of this great increase is due to the excess area revealed by measurement. The average revenue-rate, so far as the work has gone, is no more than 13¼ annas per acre. Three-fourths of the ilam lands are yet to settle, and the total revenue demand, if the same average rate be maintained, should amount to about three lakhs. The original intention was to make all the leases expire in 1892, but the later settlements have been extended to 1893—1896, *i. e.*, for a full 20-years' term in each case.

Mr. McNeile's Memorandum, pages 30, 33.

(b) Jaintia.—The territory of Jaintia was confiscated and annexed to the British dominions in 1835. Only that portion of it which lies in the plains, and is part of Sylhet, need be considered at present. Upon annexation, it was settled at very low rates, for five years, subsequently extended to fifteen, and in fact the settlement did not fall in till 1853 and 1855. It was then proposed to make a settlement of the land in blocks on long leases, at 85 per cent. of gross assets, with a right of renewal of the lease at an increase not to exceed 20 per cent. But a ryotwari settlement was preferred. The revenue is paid in direct by the proprietors, and arrears are realizable by sale. The settlement expired in 1877, but has been prolonged to 1879, to enable the present revision of settlement

to be completed. This revision began in December 1875, and was finished by the end of April 1879. It was effected by a settlement officer; a regular field survey was made; and rates were fixed with reference to the former assessments and to the current rent-rates paid on lands held by private proprietors in the neighbourhood. The old rates were numerous and arbitrary, and little more than nominal. There were nine classes of land, and the rates on each class varied from pargana to pargana. The new rates are uniform, viz.,—

	Annas per acre.
Homestead ...	... 10
Other cultivated lands ...	... 7
Fallow ...	... 2
Jungle ...	... 1

These rates were sanctioned by the Government of India for six parganas in 1876-77, and for the remaining eleven parganas of Jaintia in the following year. Their estimated financial results are as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
65,125	1,50,438	85,313	131	2,14,872

Administration Report of 1878-79, para. 45.

The reason of this very large rise in the demand was "the utterly inadequate "assessment imposed at the preceding "settlement". The new rates are still largely below rent-rates paid to proprietors by their tenants. The average rate per acre is 8¼ annas only.

The collections in Sylhet compare unfavourably with those in Assam Proper, as the subjoined table will shew. It relates to temporarily-settled estates only. Demand and balances include all outstanding arrears.

Year.	Total demand.	Remissions.	Percentage on demand.	Balances.	Percentage on demand.	Total percentage on demand.
	Rs.	Rs.		Rs.		
1876-77	1,69,221	878	0·52	63,717	37·66	38·18
1877-78	1,81,923	2,359	1·30	39,403	21·65	22·95

The decrease of arrears in 1877-78 is due principally to a change in the date of last payment of the final instalment. The date used to be the 15th April; it is now the 15th March, and falls within the financial year. The principal coercive process is that of sale of the defaulting estate, and the estates are so inordinately numerous and minute that "considerable "delay is in many cases unavoidable in "complying with the formalities of the "law, and ascertaining the property of

Revenue Report of 1877-78, para. 9.

"the defaulters". Statistics of sales of temporarily-settled estates are not separately shewn.

III. Cachar.—The first settlement of Cachar after its annexation was a summary settlement made in 1830. The second settlement was the regular settlement which was concluded in 1838-39 for a term of five years, and was based on an imperfect survey of the country made by Captain Fisher. A third settlement, known as the Rái Báhádur's settlement, was made for a period of fifteen years, from 1843-44. It was based on Lieutenant Thuillier's survey of the district in 1841-42. In 1855-56 some settlements of waste land were made for fifteen years. The last settlement was made in 1859, and extends to the 31st March 1879. This settlement was based on the data furnished by Lieutenant Thuillier's survey of 1841-42, which embraced only the cultivated land and so much of the jungle as it was supposed the population could reclaim. Lieutenant Thuillier had divided the district into mauzas, and the mauzas into *dágs* (plots) regularly numbered. The cultivated plots were actually measured, while the jungle plots were merely arbitary divisions. In making the settlement of 1859, lands not included in Lieutenant Thuillier's survey were measured by a native surveyor or amin.

For purposes of assessment all the cultivated lands were divided into two classes, according to their productive powers. The rates at which first class land was assessed ranged from 11 annas 7 pie to 6 annas 7 pie per acre, according to advantages of situation; and those at which second class land was assessed, from 9 annas 11 pie to 4 annas 11 pie. Waste lands producing thatching grass and reeds were settled at the full rates of revenue charged for cultivated land in the neighbourhood. Forest jungle that required much clearing was settled for three years revenue-free, and then at a progressive jama rising to the full rates charged for adjacent lands by the end of the term, twenty years.

Land in Cachar is held on a tenure resembling the ryotwari tenure of Madras and Bombay, except that the ryot's lease is not annually renewed, but lasts throughout the term of settlement. What is here called a mahal corresponds to the survey

filed of Southern India; it is a plot of considerable size, averaging 28 acres, and is mostly held in joint ownership, each shareholder, however, being responsible for the revenue of the whole estate. The settlement was made with all the shareholders admitted to the previous settlement, their heirs, successors, representatives or assigns. In cases of recusancy, or non-attendance of any of the shareholders, the land was settled with the remaining shareholders, and if all the shareholders refused or neglected to appear, with an outsider.

The demand and balances for the last four years are shown below. Arrears of past years are included:

Year.	Total demand.	Remissions.	Percentage.	Balances.	Percentage.	Total percentage.
	Rs.	Rs.		Rs.		
1874-75	1,68,379	117	0·7	5,011	3	3·7
1875-76	1,60,844	697	0·43	5,273	3·24	3·67
1876-77	1,68,596	189	0·11	5,989	3·55	3·66
1877-78	1,80,556	41	...	4,168	2·33	2·33

Revenue Report of 1877-78, para. 16.

The revenue is collected by tahsildars, but holders of estates assessed at Rs. 50 and upwards may make payment direct into the treasury. Arrears are realized by attachment and sale of the defaulter's property, including the estate in arrears. No statistics of coercive processes are given in the Revenue Reports.

With a view to re-settlement, a cadastral survey party began work in Cachar in December 1878. The minute sub-division of the rice plots rendered a field-to-field survey impracticable on the score of expense. It was determined that the area of one kind of land held by one mirasidar in a single block should be made the unit of survey. The work was carried on in this manner up to the end of April 1879, but was found to be attended with much inconvenience and delay, and the system of survey is still open for consideration.

IV. The Eastern Duars.—The Eastern Duars are part of the Goalpara district. The settlement of these tracts, which was concluded from 1870-71 for a period of seven years, lapsed on the 31st March 1877. It was deemed inexpedient to renew the engagement with the farmers and managers with whom the former settlements had been concluded. The new settlement was accordingly made with the cultivating occupants on the ryotwari system prevalent in Assam Proper, the ryots paying through their mauzadars.

It was introduced in 1877-78, with the following results :

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
49,011	77,501	28,490	49·8	

The increase is entirely due to extension of cultivation, as the rates have not been raised. They are shown below :

		Per bigha.		Per acre.		
		As.	P.	Rs.	As.	P.
Dry crop	...	4	0	0	12	0
Rice	...	8	0	1	8	0
Garden	...	8	0	1	8	0
Jungle	...	1	6	0	4	6

The revenue demand of the year of settlement was Rs. 79,039 ; but it has since decreased. There was at first a tendency on the part of the cultivators to take up more land than they could profitably retain and pay for. The balances due at the end of the year, however, amounted to only Rs. 137, or 0·17 per cent. of the year's assessments.

ORISSA.

*I. Mauzawar Settlements.**—The first settlement of Orissa was made in accordance with a proclamation issued on the 15th September 1804 by a Board of Commissioners appointed for that purpose. This proclamation was confirmed by Regulation XII. of 1805. Certain large zamindaries were admitted to permanent settlement at fixed quit-rents. The largest of these, however, the Khurda estate, was shortly after confiscated for rebellion, and has since been held under direct Government management. As to the rest of the province, Regulation XII. of 1805 provided for four successive settlements, to last respectively one year, three, four, and three years; permanent settlement being promised at the end of the eleventh year under certain conditions. These conditions were never fulfilled, and six more summary settlements followed, making ten short-term settlements altogether. The revenue demand under each of these is shewn below. It includes tribute and quit-rents:

Date.			Rs.
1804-5	...	...	14,19,312
1805-6	...	...	13,42,014
1808-9	...	...	13,64,864
1809-10	...	...	13,32,276
1811-12	...	...	15,84,116
1812-13	...	...	15,90,843
1816-17	...	...	16,64,236
1820-21	...	...	15,60,392
1821-22	...	...	15,89,485
1828-29	...	...	16,54,651

These settlements were not particularly successful. A special officer was deputed to inquire into the state of the province in 1817. He gave it as his opinion that the fault of the assessments lay more in their inequality than in the severity of their incidence upon the province as a whole. Some reductions were made in 1818-19, but the Government of India recorded their opinion in 1828 that "the jama has

* Compiled from the Minute by Mr. A. J. Moffatt Mills, Commissioner of Cuttack, dated the 23rd January 1847, published in Selections from the Records of the Bengal Government, No. III., 1851; from Mr. D. J. McNeile's Memorandum on the Revenue Administration of the Lower Provinces of Bengal, 1873; and from the Bengal Revenue Reports.

In these notes upon Bengal settlements, I have to acknowledge assistance kindly given by Mr. H. J. S. Cotton, Secretary to the Board of Revenue, Lower Provinces.

"been too greatly enhanced, and must in "some degree be reduced."

At length, in 1838, it was determined to make a regular settlement under Regulation VII. of 1822, "embracing an "inquiry into the area and boundaries of "estates, and the rights and privileges of "the many classes of the agricultural com- "munity, together with an exact determin- "ation of the quantity and position of "lands at present held under revenue-free "tenures, and an investigation and decision "on every such tenure, as to whether such "alienated lands were or were not liable "to assessment." Demarcation of boundaries was made by special Deputy Collectors. Then the scientific survey and the field survey, each under a special officer, measured respectively the total areas of villages and the areas of fields. The maps and papers of the season were sent to the Collector, who distributed them among the 'settlement' and 'resumption' Deputy Collectors. The latter officers had the deciding of claims to lakhiraj or revenue-free tenure, numbering no less than 277,925. A large number of these tenures were resumed and settled at half rates, the holders being admitted to direct engagements where the area exceeded 75 acres, but paying through the zamindar in other cases. Meanwhile the settlement Deputy Collector filled up the soil and crop columns of the field-book, and on completion of the lakhiraj inquiries the work of assessment began. The initial standard was 70 per cent. of assets, but this was subsequently lowered to 65 per cent., and to 60 per cent. in special cases. The general instructions prescribed for the settlement officer's guidance direct his attention to the necessity of—"(1) the very best "information he can obtain by every "available means, such as patwaris, "village accounts, &c., to ascertain what "is the rent actually received by every "proprietor from every tenant in his "village; (2) a classification of the several "description of soils, and their respective "rates of rent, with reference to their pro- "duce and situation, on an average of years; "(3) enquiries into, and comparisons of, the "rates of land of the same quality in "adjacent places and villages, to a greater "or less extent, as his judgment or oppor- "tunities lead him to make." Having obtained all these data, the settlement officer was then to proceed "to deter- "mine, to the best of his power, what "is the rent actually paid, upon a con- "sideration of the whole evidence before "him; and when he finds special cases

"in which, with reference to these data, "the rate said to be actually paid is "irregularly high or low, to make a parti- "cular enquiry into the causes of it, and "either uphold the alleged rate of rent, or "increase or reduce it as in his judgment "appears right and equitable."

There were two main classes of tenants—the *thâni* or resident, and the *pai* or non-resident. Rents paid by thâni tenants are said to have been easily ascertainable, "as it was notorious that they "were almost invariably assessed at a "rate infinitely higher than the pro- "duce of their lands, or any concomi- "tant advantages of residence, &c., could "enable them to pay; and with this safe "guide to go by," aided by the village papers and information gathered from the qanungos and cultivators, "it was not "a difficult task to estimate the rental of "the occupied land, and to determine what "jama each mauza could ordinarily pay." The thâni tenants were enabled to pay these very high rents by holding revenue-free lands at low rates. Pai rents were about four annas in the rupee less than thâni. On the whole, the settlement was a mauzawar one, made village by village. No general rent-rates appear to have been framed; at least, they are not recorded. The assets of each village seem to have been estimated separately on their merits, according to the area and class of thâni, pai, and sîr cultivation. It was several times proposed to introduce the North-Western Provinces system of "aggregate to detail" assessment, *i. e.*, of assessing the pargana in a lump, and then distributing the jama over the villages; but this plan was invariably rejected as unsuitable to the province.

Settlement operations lasted from 1838 to 1845, and the immediate results were as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
16,54,651	16,89,630	34,979	2·11	20,36,348

These figures include tribute and permanent quit-rents. For the temporarily-settled tracts only, the figures seem to be as follows (inclusive of Khurda and other Government estates):

Old assessment.	New assessment.	Difference.	Per-centage.
Rs.	Rs.	Rs.	
15,37,994	15,72,119	34,125	2·22

The ratio of these assessments to the assets, and their average incidence per cultivated acre, are shewn below:

District.	Per cultivated acre. Rs. As. P.	Percentage on assets.
Cuttack ...	1 8 9	62
Pooree ...	1 0 6	72
Balasore ...	0 13 3	63

The percentage left to the zamindar seems small. But he does not get the whole of even this, for various kinds of middlemen intervene between him and the ryot, and intercept a share of the rents. These have various names, and enjoy various rights; thus, the middleman may be either a *muqaddam* or a *padhán*, taking 20 to 25 per cent. of assets, and leaving 15 per cent. only to the zamindar; or a *sarbarahkar* or a *pursati*, taking 15 to 20 per cent.; or a *kharidadar*, that is, a holder by purchase, who takes 30 per cent. if the vendor was a zamindar, and 20 per cent. if the vendor was a muqaddam, the remaining 15 to 20 per cent. being equally divided between the muqaddam and the zamindar in villages where muqaddami rights exist. The pursati and the sarbarahkar can be ousted for mismanagement proved to the satisfaction of the Collector, cannot alienate or sub-divide their tenures without the zamindar's permission, and were granted hereditary rights at settlement only on condition of uninterrupted possession from a period anterior to the 14th October 1803. The other classes enjoy almost complete proprietary rights, short of separation from the zamindari to which they belong.

Lastly, the rents of thâni cultivators were fixed for the term of settlement, as also the rents payable by *chandinadars*, or holders of sîr lands only. Pai tenants are tenants-at-will.

The settlement was for 30 years, expiring in 1867. It was then renewed without alteration for another term of 30 years, and will therefore remain in force till 1897. By that time it will have repaid its expenses as a financial undertaking, the return on the outlay being a little more than 1½ per cent.

Land revenue in Orissa used to be realized by issue of process against the person of the defaulter, in the manner common over all the Upper Provinces of the Bengal Presidency. But in 1853 this plan was abandoned in favour of the system of realisation by sale of the defaulting estate. The change is said to have resulted in a great improvement in the

collections, while at the same time putting an end to the abuses to which the process system was liable; and the revenue "has of late years been realized with "much regularity." The returns furnished in the annual revenue reports enable the demand and balances to be shewn for the last three years. The subjoined figures relate to the temporarily-settled tracts only, exclusive of Khurda and other Government estates.

Year.	Current demand.	Current balance.	Percentage of balance on demand.
	Rs.	Rs.	
1876-77 ...	13,75,440	16,283	1·18
1877-78 ...	13,75,585	13,515	0·98
1878-79 ...	13,75,516	21,869	1·56

There were also Rs. 7,584 outstanding arrears of former years at the end of 1877-78, and Rs. 6,761 at the end of 1878-79, but only Rs. 10 at the end of 1876-77.

The operation of the sale system has been as follows:

Year.	Estates liable to sale.	Estates sold.
1876-77 ...	159	10
1877-78 ...	71	6
1878-79 ...	142	5

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*II. The ryotwar settlement of Khurda.**—The Khurda estate, as above noted, was confiscated for rebellion, and has been a Government estate ever since 1804. Until 1837 it was managed under a number of mahalwar summary settlements, made on very rough estimates of the resources of the several mahals. The persons admitted to engagement were the sarbarahkars. In the last or quinquennial summary settlement, care was taken to make the sarbarahkars give their ryots leases at fixed rates for the term of settlement; and this prepared the way for a total change of system. Measurements had been going on since 1824. Compared with field surveys in the Upper Provinces, they were of a rude description, the standard of area being the bigha of 19,600 square feet, and standard of measurement the seven-foot rod. In this way all the cultivated and culturable land was measured up, and in October 1836 the Collector was able to report the conclusion of the first regular settlement of Khurda. It was a ryotwar

* Compiled from *Selections from the Correspondence on the settlement of the Khurda Estate*, 1879, and from Mr. W. C. Taylor's Rate Report of 30th November 1879. The Bengal Revenue Report of 1878-79 has also been consulted.

settlement, based on revenue-rates applied to soil-classes, as ascertained by measurement. The soil-classes were minutely divided into grades, and the revenue-rates were supposed to represent the money value of one-third of average gross produce. That they were very light is proved by the fact that no complaints were made against the measurements, though the latter were very inaccurate, and mostly to the disadvantage of the ryot, who sometimes was charged for land 25 per cent. in excess of the true area of his holding. Waste arable land was assessed, as in Bombay and Madras, with a view to its future occupation. Each ryot received a lease of his holding, and the sarbarahkars, with whom the settlement was made, were merely collectors of the Government revenue, receiving a commission of about 20 per cent. on the collections, partly in cash and partly in land. They were usually a body of co-sharers, who entered into a joint engagement for the mauza or territorial area in question.

The term of settlement was fixed at 20 years. In 1853, while it had still three years to run, the sarbarahkars were offered a renewal of settlement at the old rates, on condition that all the land entered in the old settlement records as culturable waste should be brought under assessment at the lowest rates for cultivated land. This condition, which was meant to cover the extension of cultivation since 1836, was rejected by the sarbarahkars, and the Government accordingly proceeded to measure up and assess all cultivation in excess of the old settlement area. The result proved much less favourable to the sarbarahkars, and is shewn as follows:

Old assessment.	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
1,36,742	1,77,608	40,866	30	10,996

The increase was entirely due to extension of cultivation, as no alteration was made in the revenue-rates. Only extra cultivation was measured, except in villages where the old settlement statistics were notoriously incorrect. The pay of the two Deputy Collectors does not seem to be included in the cost. The settlement expires in September 1880.

Under these settlements the value of land in Khurda has greatly increased. Preparations for revision of assessment began in 1875. The estate has been cadastrally surveyed, at a cost of

Rs. 2,12,400,* and the settlement officer has recently submitted his rent-rate report. This still awaits the sanction of the Board of Revenue, but the method and proposed results of assessment may be briefly noted here. The average produce per acre, as declared by the ryots themselves, is first entered against every field in the field register. Afterwards the lands of the village are classified into homogeneous tracts, these classes are ranked according to grades, and a previously calculated revenue-rate is applied to each grade. The settlement officer then personally compares the results of these two modes of assessment, testing them, where necessary, by actual reaping and weighing of the crop. The Government share has been reduced from one-third to one-fourth of average gross produce; and as both the preliminary methods of estimating assessments depend largely upon information given by the people themselves, it is believed that the new rates are "low and "a good deal in favour of the ryots." In 172 villages tentatively assessed, the average incidence of the new rates compares as follows with that of existing assessments:

Class of soil.	Average rate per acre.	
	Actual.	Proposed.
	Rs. As. P.	Rs. As. P.
Homestead lands	11 11 0	12 1 0
Rice lands { Double crop ...	2 1 2	2 7 7
Rice lands { Single crop ...	1 2 1	1 13 1
Rice lands { Swamp cultivation	1 13 11	1 10 0
Dry crop lands	1 3 5	1 9 3
Quit-rent lands	0 7 5	0 11 8
General average	1 2 0	1 12 7

The homestead lands are gardens attached to houses. Notwithstanding the over-measurements of the old settlement, the assessed area in those 172 villages was increased more than 20 per cent. by the cadastral survey. The proposed assessments entail an enhancement of no less than 84½ per cent. At this rate the new revenue demand on the whole estate should be about Rs. 3,25,000, and in fact the settlement officer estimates that the revenue increase by the present settlement, without at all pressing the ryots, will exceed a lakh and a half. This is

* This is the expenditure actually incurred up to the end of 1878-79. For the future it has been arranged that the professional survey is to be confined chiefly to the village boundaries, the settlement officer filling in details. The cost to be incurred from 1879-80 to 1882-83, by which latter year the work will have been completed, is estimated at Rs. 2,92,603. These arrangements, however, are merely tentative.

the sudder jama or net revenue realisable from the sarbarahkars.

The system of joint sarbarahkars is said to have worked badly, enabling the astuter members of the partnership to engross the whole right to the detriment of the rest. Arrangements have now been made, as far as possible, to provide each sarbarahkar with a separate village. Ryoti holdings are very small. In the 172 test villages there are 21,986 ryots to 31,755 acres, giving an average of 1⅓ acre per ryot.

The settlement is practically ryotwar, the sarbarahkar corresponding to the mauzadar of Assam. But it differs from ryotwari settlements in other parts of India in not requiring any annual revision of the revenue-roll. The ryot's lease lasts for the term of settlement.

BACKERGUNGE (Tooshkali Estate).

Area of estate ... 22,754 *acres.*

The estate of Tooshkali in the Soonderbuns became the property of Government in 1836. After some years of direct management, the estate was let in farm at a jama of Rs. 77,809 for 20 years. But the farmers were unable to realise their rents, and surrendered the farm in March 1875. The estate was then re-settled directly with the ryots. The old revenue-rates were enhanced 6 annas per bigha* on 1st and 2nd class land, 4 annas on 3rd and 4th class land, and 3 annas on the 5th and lowest class. These are all rice lands. Per acre, the old and new revenue rates compare as follows:

Class.	Old rates.	New rates.
	Rs. As.	Rs. As.
I. ...	3 12	4 14
II. ...	3 9	4 11
III. ...	3 6	4 2
IV. ...	3 3	3 15
V. ...	3 0	3 9

The result of the application of these rates has been an enhancement of revenue demand from Rs. 77,809 to Rs. 1,02,352, *i. e.*, by 31 per cent., after deduction of the commission (Rs. 2,566) granted to middlemen on the Rs. 16,170 of revenue they collect. The cultivators under middlemen are secured by leases direct from Government for the term of settlement. Where there are no middlemen, the collections are made by a Government establishment costing Rs. 2,662 per annum. Large as the increase is, the rates are said to be "so mercifully "moderate as to be beyond question as to "equity," and in fact a small area of abandoned land excluded from settlement has been taken up at Rs. 2 per bigha (Rs. 6 per acre). The expenses of the settlement are not stated. It runs for 20 years, ending 1897.

* This is the standard Bengal bigha of 14,400 square feet, *i. e.*, a square the side of which is 40 yards.

CHITTAGONG (NAU-ABAD AND LAKHIRAJ LANDS*).

THE cultivated lands of the Chittagong district were first measured in 1764. The assessments upon the area thus ascertained were declared permanent by Regulation I. of 1793. In 1797 it was discovered that the owners of a large estate had attempted, by a forged deed, to usurp possession of all lands excluded from the original measurement. The upshot of the long correspondence and litigation which followed, extending over no less than 40 years, was a regular temporary settlement of all the cultivated lands of Chittagong not permanently settled already.

The first step was an exact definition of all the lands to which the zamindars were entitled by virtue of the measurement of 1764 and the terms of the permanent settlement; as also of all revenue-free tenures, whether valid or invalid. The remainder was considered as *nau-abad* land. The expression nau-abad properly means newly cultivated land. In Chittagong it means all land not measured in the original measurement of 1764: or, in other words, all land which was lying waste and in nobody's possession at the time of the measurement. This land is the property of Government, and may be held either by zamindars of the permanent settlement or by others. In the settlement of 1848, concluded by Sir Henry Ricketts, every nau-abad holding was made into a separate taluq or plot, and assessed without reference to any permanently-settled land which might be held along with it. The maximum rate of assessment was Rs. 2-4-6 an acre. This rate was adopted as far back as 1801, and had been repeatedly sanctioned by the Government. It was reduced wherever circumstances made a lighter assessment necessary. The average rate on the 460,000 acres assessed (cultivation and waste together) was Rs. 1-11-0 per acre, giving a total jama of Rs. 2,00,826.

At the same time lakhiraj or revenue-free tenures were investigated, and lands held on invalid tenures were resumed. Their assessment amounted to only Rs. 75,635. Certain other lakhiraj lands had been compounded for at Rs. 1-1-9 per acre, subsequently reduced to Re. 0-13-9 per acre; these yielded Rs. 13,708. The area

* Compiled from Mr. H. J. S. Cotton's Memorandum on the Revenue History of Chittagong: Calcutta, 1880. The Revenue Reports of the Lower Provinces have also been consulted.

of all lakhiraj lands, resumed and revenue-free, including waste, was 111,223 acres.

Adding together the assessments imposed on nau-abad and lakhiraj lands, the total increase to the revenue of the district effected by the settlement of Sir Henry Ricketts would appear to be Rs. 2,90,169. But as compared with the average collections from 1830-31 to 1834-35, the financial results of the settlement appear as follows:

Old assessment (average 1830-35).	New assessment.	Difference.	Per-centage.	Cost.
Rs.	Rs.	Rs.		Rs.
5,54,082	7,65,507	2,11,425	38	15,23,411

The work lasted from 1841 to 1848. Its heavy cost is explained by the laborious character of the proceedings. No less than 89,389 separate settlements were made, 79,586 of which related to new mahals, lakhiraj or nau-abad, mostly of minute size, and intermingled with each other, and with permanently-settled lands, in the most complicated manner.

The collection of revenue from these estates is an exceptionally troublesome and expensive business. On the introduction of the settlement, leases were given to 'circle farmers', who were to receive a commission on the revenue collected by them from the petty estates of their circles; but this has recently, on the expiry of the circle farms, been replaced by a system of khass management.

At the time of settlement the Government demand was estimated to be equivalent to 19 per cent. on the value of gross produce. Settlement was made in all cases with actual possessors. The resumed lakhiraj holdings were of course permanently settled. The nau-abad holdings, in which the proportion of jungle was very small or nil, were settled for 50 years: that in which the proportion of jungle was considerable were settled for 25 years; and this period having expired, these 'jungle-booree' taluqs are now under re-settlement.

Demand and balances for the last six years are shewn below. They relate to previous as well as current years, and to the permanently-settled as well as the temporarily-settled parts of the district:

Year.	Total demand.	Balances recoverable.	Irrecoverable and doubtful.	Remissions.
	Rs.	Rs.	Rs.	
1873-74	9,69,104	75,501	1,796	3,191
1874-75	8,30,912	57,536	1,874	11,707
1875-76	7,76,730	65,874	3,338	910
1876-77	8,19,765	1,44,982	2,680	1,072
1877-78	9,03,635	2,82,229	2,173	1,448
1878-79	10,54,282	1,76,223	3,178	11,522

The remissions of 1873-74 and 1874-75 were made on account of destruction of embankments and encroachments of the sea. The heavy balances of 1876-77 and 1877-78 are explained by the cyclone and stormwave of October 1876. As for 1878-79, the revenue report of that year simply says that "great difficulty is "experienced in realizing Government dues "of all kinds, especially land revenue"; that "the plea of distress, though now "quite unfounded, still continues to be "urged"; and that the arrears, though still large, have been very much reduced during the year. Arrears are realisable by sale of the defaulting estate. Particulars on this subject are subjoined.

Year.	Defaulting estates.		Estates sold.	
	No.	Revenue. Rs.	No.	Revenue. Rs.
1874-75	956	61,514	277	6,791
1875-76	985	64,622	259	9,023
1876-77	1,225	1,15,736	286	9,339
1877-78	4,032	2,11,588	373	5,028
1878-79	14,453	4,22,273	2,050	15,145

Taken from the Revenue Reports of 1875-76—1878-79.

The re-settlement of the nau-abad taluqs, which were settled for 25 years only, is now in progress. The work began in 1875-76, and up to the end of 1878-79, 458,540 acres had been surveyed by the settlement officer, at a cost of Rs. 1,47,156, but this is the cost of the survey establishment only. There remained 189,168 acres to be surveyed. The settlements effected since the beginning of operations comprise 435 plots (taluqs), with an old revenue demand of Rs. 6,586, and a new assessment of Rs. 21,934. This great increase is mostly due to extension of cultivation in jungle lands. The average revenue-rate on the area settled in 1876-77 was Rs. 2-6-10 per acre.

The settlement fixes the rents payable by tenants during the whole term of settlement. The taluqdar (*i. e.*, the plot-holder) is assessed at 20 per cent. less than the rents. Thus the settlement is made at 80 per cent. on assets; but the taluqdar gets a free grant of waste land equal to one-third of the cultivated area of the taluq.

THE NEW SETTLEMENT OF BRITISH BURMAH.

BRITISH BURMA.*

Present system of land revenue.

Directions, page 1.

UNDER Native rule the Burmese land revenue was raised by a tax on plough-cattle, the assessment and collection of which were left to village officers, who were bound to pay a certain sum into the Treasury, and might levy what additional contributions they could for themselves. The revenue thus obtained was inconsiderable. This system was superseded, on the introduction of British rule, by fixed rates on the land, assessed by officers of the Government. In process of time rough surveys were made, registers of cultivators were framed, the share of the State in the gross produce of the land was fixed at one-fifth, and rules for assessment and settlement were drawn up (1861-65). Both records and survey, however, were more or less imperfect, and the former were not regularly kept up to date. It has been determined, therefore, to bring the whole province under a regular settlement. The work has already advanced tolerably far in its first stage, that of survey.

Tenure of land.

Taken from Settlement Secretary's No. 51—11, 8th July 1880, to the Government of India, paragraph 3.

The tenure of land throughout the province is simple and uniform. The people hold direct from the State. The only exception to this is to be found in the case of grants made under the old rules, now no longer in force, of 1839-41 and 1863-65, in which the cultivator, instead of enjoying fixity of possession under the State, holds his land simply as a tenant-at-will of the grantee. The effects of this policy of granting large areas to individuals, and thereby, for the first time in Burma, introducing a system of landlord and tenant, have been, on the whole, admittedly mischievous. Fortunately, however, the area of grants of this description is comparatively small.

Meaning of a 'kweng'.

The staple agricultural produce is rice. Little else is grown. The country, except in the more northerly districts, is very flat, and is divided, for rice cultivation, into fields of varying size, and generally of rectangular shape. A cultivator generally owns a number of fields compactly grouped together, and this group of fields is his holding. The boundaries of fields are, on the whole, permanent over long periods of years. The

* Compiled from *Directions to Revenue and Settlement Officers*, and other papers, for which I have to thank the kindness of Mr. D. M. Smeaton, Settlement Secretary to the Chief Commissioner of British Burma.

boundaries of holdings are subject to perpetual change. A kweng is a group of such holdings, and generally contains within its area a village. The kwengs are separated from one another by belts of jungle, sometimes narrow, but frequently dense and of great extent, and by creeks. Communications are difficult, roads are few and bad, and for six months of the year traffic is almost entirely by water.

Experiments with the mauzawar settlement.
Directions, page 1.

It may be noted that, in some parts of the province, kweng settlements were tried, on the model of the mauzawar settlements of Upper India. But the kweng proved to be a group incapable of conversion into a village community, and the experiment was dropped.

Present method of settlement.

The regular settlement now in progress will consist of a scientific (or cadastral) survey, and an assessment based to a great extent upon the quantity and value of agricultural produce, as proved by actual experiment.

I.—Demarcation of boundaries.
Directions, Chapter I.

I.—Demarcation of boundaries is effected by the Settlement Officer. It is his duty to mark off all the kwengs, in such a manner, if possible, as to preserve an average area of 1,200 to 1,300 acres per kweng. Wooden posts are to be used for this purpose, except where the boundary is naturally defined by a creek, a river, a canal, the sea, or a permanent road. Grazing-grounds and all land reserved within the limits of a kweng (as village-sites, religious endowments, fisheries, or forests) are to be demarcated by smaller wooden posts. Where no customary grazing lands exist, new blocks for grazing will not be marked off till after survey, when the Settlement Officer, with the map in his hand, will be able to determine, in concert with the villagers, the area and position of the lands to be reserved for this purpose. Similarly, when the houses of a village are scattered and intermixed with cultivation, the demarcation of the village-site will follow, instead of preceding, the survey. In such cases the village-sites are to be made as compact as possible by exchanging (with the holders' consent) plots intermixed with houses for waste lands in some other part of the kweng.

II.—The Cadastral survey.
Directions, Chapter II.

II.—The cadastral survey works independently of the Settlement Officer. It is a scientific survey, giving absolutely accurate results. The Survey Department is required to supply to the Settlement Officer, on or before the 1st November of each year, hand-made tracings or photo-zincographed copies of the plan of each kweng surveyed during the past season, with a statement showing the exact area,

in acres and decimals of an acre, of every division of land shewn under a separate number on the map. Any errors in boundaries and area are to be noted by the Settlement Officer in his inspection, and communicated to the Survey Department for correction of the map. Besides kweng maps, the Survey Department supply the Settlement Officer also with topographical maps, on a scale of two inches to the mile, showing the kweng divisions and chief physical features. These topographical maps are indispensable companions of the Settlement Officer in his work of inspection and assessment.

III.—Crop-cutting and grain-values.

III.—The selection of areas for crop-cutting is the first work undertaken by the Settlement Officer in a tract destined for revision of assessment. Usually more than one such area will be selected in each kweng. The Settlement Officer is first to determine roughly the homogeneous blocks of soil (if any) into which the kweng is naturally divided. From each block an area is to be selected which includes fields cultivated by two or more persons holding on different tenures, ploughing with different kinds of cattle, and cultivating in different ways. Compactness can be ensured by choosing the trijunction fields of three separate holdings. At harvest time the produce of the fields is to be gathered in strictly according to local custom, under the supervision of the Settlement Officer, or an authorized official, and measured up by the Government standard basket of 50 lbs.

Directions, Chapter III.

IV.—Demarcation of holdings, and compilation of record of rights.

IV.—The demarcation of holdings is done by a staff of four to six men, with a superintendent, under the Settlement Officer. A holding means a compact aggregate of fields held by one person or a number of persons jointly, and assessed in one sum. The term is also applicable to compact blocks of unappropriated waste, or of land appropriated for other purposes than cultivation (as roads, village-sites, &c.). Proprietary right in holdings is either that of a landholder or of a grantee. The landholder acquires his right by a continuous possession for twelve years, coupled with a regular payment of revenue, unless expressly exempted therefrom. The grantee acquires his right by direct act of the State. A landholder has a permanent heritable and transferable right of occupancy in his land, subject only (*a*) to the payment of

Directions, Chapter IV.

revenue and other cesses from time to time imposed by law; (*b*) to the reservation in favour of Government of all mineral products and buried treasure, with full liberty to search for and work the same, paying to the landholder only compensation for surface damage as estimated by the revenue officer. The rights of the grantee depend on the terms of his deed. There are also two other legal tenures of a non-proprietary character, *viz.*, occupation under lease from the State for a term of years, and temporary occupation, by squatting or otherwise, short of the conditions necessary to the status of a landholder.

The register of rights and occupation in land.

While the staff above mentioned mark off the holdings, by lining them round with blue pencil on the kweng map, they at the same time begin to compile the register of rights and occupation in land, by assigning a serial number to each holding (taking all the rice lands first, then lands under miscellaneous crops, then orchards, and, lastly, grazing land, village-sites, and land attached to temples, &c.), and recording the name or names of the holders. Afterwards the fields of the holding, with their areas, are entered in the register by a separate staff. Finally, the Settlement Officer, in the presence of the cultivators of the kweng, determines and records the tenure upon which each cultivator holds. The whole process is subjected to check and testing throughout all its stages.

Registers composing the record of rights.

The register of rights and occupation in land will be yearly revised and brought up to date, by recording all changes in holdings which have taken place during the year. From it will be prepared three subsidiary registers (of grants, of leases, and of tenants). All four registers, together with a register of local customs and history, will constitute the record of rights for the kweng.

V.—Inspection and classification of soils.

Directions, Chapter V.

V.—The principles which should guide the Settlement Officer in the inspection and classification of tracts for assessment are described as follows: The principle of classification should be more or less in accord with enlightened ideas among the people themselves. The Settlement Officer should begin by classifying tracts. Within these tracts he should classify the kwengs; within the kwengs he should classify the holdings. Differences are of two kinds, natural and artificial, the former depending on physical conditions, the latter on the condition of the people and the facilities of communication. The

Settlement Officer is first to ascertain, by marching over the area to be assessed, whether it can be treated as a homogenous whole, or whether there are broadly marked differences between parts of it. If there are such differences, the tracts affected by them should be roughly marked off by the Settlement Officer on his topographical map. This first classification is to be corrected and explained by notes which the Settlement Officer will keep from day to day. The next step is the classification of the lands within each kweng, by dividing them into blocks according to manifest varieties of soil. Each block should be so far homogenous that one average rate of productiveness may be assumed for it as a whole, without fear of much over-estimating or under-estimating the productiveness of any one part. As to the number of classes the Directions say that no precise description can be given, but clay, of varying textures, is the principal soil, alternating with light loam and mixed sandy soils on the uplands and hilly tracts. "The Settlement Officer will, as the range of his inspection widens, be able gradually to bring the chief soil varieties into classes, and to name them. His tendency at first will be to unduly multiply classes. Over-refining should, however, be avoided. Experience will teach him what minor varieties to group under a common name." Each soil-block in a kweng should be marked off with a coloured pencil on the kweng map which shows the holdings and the name of the class written in the centre of the block. When this has been done, the classification of the tract is complete.

Chapter V., para. 20.

Collection of statistics.

While engaged in inspection and classification, the Settlement Officer will also collect statistics relating to the price of rice, and to the social and economic condition of the people. The statistics regarding prices are intended to show both the theoretical price, *i. e.*, the export price less the cost of carriage to the seaboard, and the variations of local prices, with such explanation of the latter as may be possible. The social and economic statistics relate to the cost of living and the expenses of agriculture. All these statistics are to be tabulated by a special staff.

VI.—Determination of rates of assessment.

Directions, Chapter VI.

VI.—The ultimate process is the determination of revenue-rates per acre. In supersession of the old theory of 20 per cent. of gross produce (a theory never observed in practice), the State share is now to be a portion of the net produce after deduction of (*a*) cost of cultivation,

and (*b*) cost of living. In the present absence of statistical information, no attempt has been made to prescribe any fixed proportion of the net profits as the Government demand. The considerations to be borne in mind, as modifying the arithmetical result of the Settlement Officer's calculations from grain-values and commutation-prices, are the following :

(*a*) incidence of the present revenue ;

(*b*) amount of the present revenue ;

(*c*) probabilities of prices remaining at their present level ;

(*d*) average size of holdings ;

(*e*) margin of waste left for increase of cultivation ;

(*f*) probable effects of increase of population.

"It is of primary importance that no such enhancement of rates should be made as will impose on the people the necessity of lowering their standard of living, or curtailing their common comforts." Chapter VI., para. 20.

Treatment of fallow land.

Fallow land will be treated in exactly the same manner as cultivation. But the Settlement Officer, in fixing rates, will allow for a certain percentage of fallow, varying according to local circumstances, from 2 to 5 per cent. of the area actually under cultivation. Thus, if the Settlement Officer has fixed a rate of Rs. 2-8 on any class of soil within a tract, and if he considers that the full five per cent. of fallow should be allowed in that tract, he will propose for sanction a rate of Rs. 2-6 upon that soil.

Assessment of rice-lands ;

The settlement in rice-holdings is to be an annual rate per acre, such rate to continue unchanged for a stated period which will ordinarily be not less than 10 and not more than 15 years, the term to expire simultaneously over the whole of a district. The settlement in all other classes of holdings is to be a single sum payable annually in respect of the entire area of the holding. The period for which this lump sum will be fixed will be the same as in rice-holdings.

of orchards and miscellaneous cultivation.

Orchards, gardens, and miscellaneous cultivation are, as a rule, to be assessed at the highest rates fixed for rice-land in the circle to which they belong. Lands bearing palms or fruit trees, not coming within the category of orchards, may be assessed either in the same manner as orchards, or by a rate per tree.

VII.—The settlement report.

Directions, Chapter VII.

VII.—The rates determined by the Settlement Officer will be submitted by him to the Local Government for sanction, in a report divided under four heads, *viz.*, (1) a general description of the tract, (2) its fiscal history, (3) the condition of the people, (4) the processes and results of assessment. The report will be accompanied by the prescribed tabular statements.

The law of settlements in British Burma is Act. II. of 1876.

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